PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

THE VILLAGES AT MAIN
RESIDENTIAL APARTMENT COMMUNITY

Livingston, CA

March 2021

Prepared for:

City of Livingston
1416 C Street
Livingston, CA 95334

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240

BaseCamp Environmental, Inc.

PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

THE VILLAGES AT MAIN
RESIDENTIAL APARTMENT COMMUNITY

Livingston, CA

March 2021

Prepared for:

City of Livingston
1416 C Street
Livingston, CA 95334
209-394-8041

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240
209-224-8213
www.basecampenv.com

TABLE OF CONTENTS

			Page
INTRODUCTION, SUMMARY, AND PROJECT DESCRIPTION			
1.0	Introduction		
	1.1	Project and EIR Overview	1-1
	1.2	Project Background	1-1
	1.3	EIR Requirements and Processing Under CEQA	1-2
	1.4	CEQA Procedures for the EIR	1-2
2.0	Summary		
	2.1	Project Description	2-1
	2.2	Environmental Impacts and Mitigation Measures	2-2
	2.3	Areas of Controversy	2-2
	2.4	Summary of Alternatives	2-2
	2.5	Summary of Other CEQA Issues	2-3
3.0	Project Description		
	3.1	Project Location	3-1
	3.2	Project Objectives	3-1
	3.3	Project Details	3-1
	3.4	Permits and Approvals	3-4
ENVIRONMENTAL ISSUES			
4.0	Aesthetics and Visual Resources		4-1
5.0	Air Quality		5-1
6.0	Biological Resources		6-1
7.0	Cultural Resources and Tribal Cultural Resources		7-1
8.0	Geology and Soils		8-1

9.0 Greenhouse Gas Emissions 9-1
10.0 Hazards and Hazardous Materials 10-1
11.0 Hydrology and Water Quality 11-1
12.0 Land Use, Agriculture, and Population 12-1
13.0 Noise 13-1
14.0 Public Services and Recreation 14-1
15.0 Transportation 15-1
16.0 Utilities and Energy 16-1
CUMULATIVE IMPACTS, ALTERNATIVES, AND OTHER CEQA ISSUES
17.0 Cumulative Impacts
17.1 Introduction to Cumulative Impacts 17-1
17.2 Cumulative Impact Setting 17-2
17.3 Cumulative Impacts of Project 17-2
18.0 Alternatives
18.1 Introduction 18-1
18.2 Selection of Alternatives 18-1
18.3 Alternatives Not Considered in Detail 18-3
18.4 Alternatives Considered in Detail 18-4
18.5 Environmentally Superior Alternative 18-8
19.0 Other CEQA Issues
19.1 Significant and Unavoidable Environmental Impacts 19-1
19.2 Irreversible Environmental Commitments 19-1
19.3 Growth-Inducing Impacts 19-2
19.4 Environmental Justice 19-3
SOURCES
20.0 Sources
20.1 References Cited 20-1

20.2 Persons Consulted 20-6

20.3 EIR Preparers 20-6

APPENDICES

A. Notice of Preparation and NOP Comments

B. Air Quality Modeling Results

C. Biological Resource Assessment

D. Central California Information Center Report

E. Noise Modeling Results

F. Traffic Effects Study

LIST OF FIGURES

1-1. Regional Map 1-5

1-2. Vicinity Map 1-6

1-3. USGS Map 1-7

1-4. Assessor's Parcel Map 1-8

1-5. Aerial Photo 1-9

3-1. Site Plan with Landscaping 3-5

3-2A. Typical Elevations, Apartment Buildings 3-6

3-2B. Elevations, Community Building 3-7

3-3. Proposed Site Plan 3-8

12-1. Existing City General Plan Designations 12-9

12-2. Existing City Zoning 12-10

15-1. Existing Traffic Volumes and Lane Configurations 15-9

15-2. Existing Plus Project Traffic Volumes and Lane Configurations 15-10

17-1. Cumulative No Project Traffic Volumes and Lane Configurations 17-10

17-2. Cumulative Plus Project Traffic Volumes and Lane Configurations 17-11

LIST OF TABLES

1-1	NOP Letters Received	1-3
2-1.	Summary of Impacts and Mitigation Measures	2-5
5-1.	National and California Ambient Air Quality Standards	5-3
5-2.	San Joaquin Valley Air Basin Attainment Status	5-4
5-3.	SJVAPCD Significance Thresholds and Project Air Pollutant Emissions	5-8
6-1.	Special-Status Species Documented in the Project Vicinity	6-3
9-1.	Project GHG Emissions	9-7
12-1.	Population of Livingston, Merced County, and California	12-3
13-1.	Groundborne Vibration Thresholds	13-3
13-2.	Land Use Compatibility for New Development near Transportation Noise Sources	13-4
13-3.	Maximum Allowable Noise Exposure - Stationary Noise Sources	13-5
13-4.	Construction Equipment Noise	13-7
15-1.	LOS at Study Intersections – Existing Conditions	15-3
15-2.	LOS at Study Intersections – Existing Plus Project Conditions	15-6
17-1.	LOS at Study Intersections – All Cumulative Conditions	17-12
18-1.	Comparison of Alternatives to the Proposed Project Impacts	18-4
19-1.	SB 1000 Topics and Project Impacts	19-6

ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AB	Assembly Bill
APN	Assessor's Parcel Number
ARB	California Air Resources Board
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CalEnviroScreen	California Communities Environmental Health Screening Tool
CalEPA	California Environmental Protection Agency
Cal Fire	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Data Base
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers
CUPA	Certified Unified Program Agency
dB	decibel
dBA	A-weighted decibel
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	U. S. Environmental Protection Agency
ESA	Endangered Species Act (federal)
FEMA	Federal Emergency Management Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GSA	Groundwater Sustainability Agency
IPCC	United Nations Intergovernmental Panel on Climate Change
kWh	kilowatt hours
L_{dn}	Day-Night Average Sound Level
L_{eq}	Equivalent Sound Level
LOS	Level of Service
LUSD	Livingston Union School District
MCAG	Merced County Association of Governments

mgd	million gallons per day
MID	Merced Irrigation District
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MUHSD	Merced Union High School District
NO_x	nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OPR	Governor's Office of Planning and Research
PM	particulate matter
PM_{10}	particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter 2.5 micrometers or less in diameter
RCRA	Resource Conservation and Recovery Act
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR	State Route
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled

1.0 INTRODUCTION

1.1 PROJECT AND EIR OVERVIEW

This document is an Environmental Impact Report (EIR) for The Village at Main Residential Apartment Community project (project) in Livingston, California. The 17.3-acre project site is located southeast of the intersection of Peach Avenue and Lincoln Boulevard, adjacent to and south of the Livingston High School playing fields in southern Livingston (Figures 1-1 to 1-5). This IS/MND has been prepared in compliance with the requirements of the California Environmental Quality Act (CEQA). For the purposes of CEQA, the City of Livingston (City) is the Lead Agency for the project.

This EIR evaluates the potential environmental effects of the project, which is the construction of a 480-unit residential apartment complex on the project site. As represented in the proposed site plan. The complex would consist of 20 three-story buildings, each with 24 units ranging from one to three bedrooms. The complex would also include a two-story community building with approximately 6,343 square feet of floor area, along with a patio, outdoor pool, and spa. A total of 587 parking spaces, 453 of which would be covered, would be provided to serve residents and visitors. Access to the site would be provided from a driveway off Main Street, with two other access points off Main Street for emergency vehicles only. The project would connect to existing City water and wastewater lines but would install an onsite storm drainage system with two storm drainage basins in the approximate site center.

The project would require a Conditional Use Permit approved by the Planning Commission, and Site Plan/Design Review approval by the City Council. Permits and approvals from other public agencies, including the Merced Irrigation District (MID), would also be required.

1.2 PROJECT BACKGROUND

The project site is in southern Livingston, in an area that has a mix of developed and agricultural uses. The Livingston High School playing fields are adjacent to and north of the project site. Further north, across Peach Avenue, is residential development and the Livingston High School campus. Existing residential development is found west of the project site. To the south and east are agricultural fields, along with buildings owned by Yagi Brothers Produce, Inc.

The Livingston General Plan Housing Element, adopted in 2016, notes that the City has experienced an increased level of residential development. However, the City is faced with balancing the needs of existing residents, including lower-income farmworkers, with those of newer residents. American Community Survey data show that median rents

increased by 11 percent in Livingston from 2009 to 2014. The rising rents reflect a lack of multifamily units and rental units in general. The lack of apartment construction, coupled with the demand for affordable housing, have been factors in the rent increases (City of Livingston 2016). The project proposes the construction of multifamily rental units, which would add to the City's housing stock.

The Livingston General Plan, adopted in 1999, has designated the project site for High Density Residential use. The zoning for the project site is R-3, High Density Residential. The proposed project would be consistent with the land uses allowed under the current General Plan designation and zoning.

1.3 EIR REQUIREMENTS AND PROCESSING UNDER CEQA

CEQA, enacted in 1970, requires that public agencies document and consider the potential environmental effects of the agency's actions that meet CEQA's definition of a "project." Briefly summarized, a "project" is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency's direct activities as well as related activities that involve public agency approvals or funding. The proposed project, including site approvals and development, is considered a project as defined by CEQA.

This EIR has been prepared in accordance with the requirements of CEQA and the State CEQA Guidelines (California Code of Regulations Title 14, Chapter 3). The CEQA Guidelines contain advisory and mandatory requirements for the application of CEQA to development projects. CEQA requires the designation of a "lead agency" for a project. As defined in the CEQA Guidelines, the lead agency is the public agency that has the principal responsibility for carrying out or approving a project. Since the City has approval authority over the proposed project, it is the lead agency for CEQA purposes.

An EIR is intended to inform decision-makers and the public about the potentially significant adverse environmental effects of a project and to describe mitigation measures that would reduce or avoid these effects. This EIR generally follows the sequence of the latest Environmental Checklist in CEQA Guidelines Appendix G in analysis of project impacts on environmental issues. The EIR includes consideration of cumulative impacts, growth-inducing impacts, irreversible environmental effects, and alternatives to the proposed project.

1.4 CEQA PROCEDURES FOR THE EIR

On January 20, 2021, the City circulated a Notice of Preparation (NOP) inviting comments from interested agencies and the public as to environmental concerns that should be considered in the EIR.

The NOP was received and published by the State Clearinghouse on January 22, 2021, and the 30-day NOP comment period closed on February 22, 2021. Appendix A contains

the NOP and letters received during the comment period from agencies and interested persons. Table 1-1 summarizes the content of these comment letters.

TABLE 1-1
NOP LETTERS RECEIVED

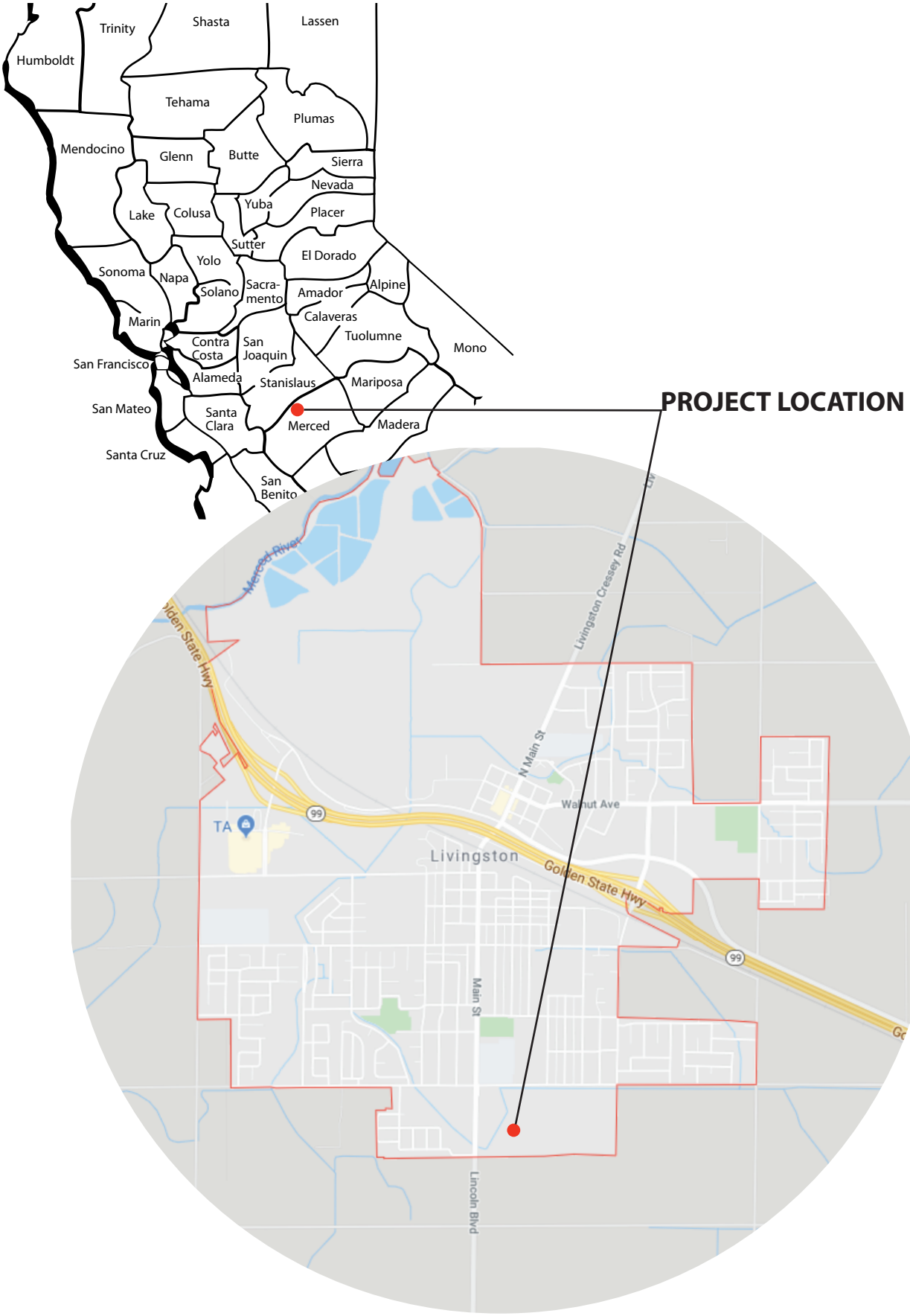
#	Date	Commenter	Concern
1	1/25/2021	Native American Heritage Commission	Provides information related to California AB 52 and SB 18 notification and consultation requirements and other requirements related to cultural resources.
2	1/26/2021	California Department of Toxic Substances Control (DTSC)	Potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the site. Aerially deposited lead from vehicle engine combustion. Mine waste (not relevant). Building demolition (not relevant). Soil importation. Presence of organochlorinated pesticides.
3	2/23/2021	Collette Alvernaz	General Plan and associated EIR is from 1999, concern about outdated information. Concern about analysis of impacts on agricultural lands, including those of commenter. Impacts of additional traffic on local roads. Potential congestion on SR 99/ Winton Parkway exit and other intersections, along with associated student safety and emergency response issues.
4	Undated	Jean Okuye, President, Valley Land Alliance	Project impacts on local water quality and water supply. Climate change impacts on water and air quality.

With the release of this Public Review Draft EIR and accompanying Notice of Availability, regulatory agencies and members of the public will have the opportunity to comment on the adequacy of the environmental review during a 45-day review period. After the close of the public review period, the City is obligated to provide written responses to the comments received, and these responses will be published in a Final EIR.

Prior to a decision on the project, the City decision-makers must first certify that 1) the Final EIR was completed in compliance with the provisions of CEQA, 2) the City has reviewed and considered the information in the Final EIR, and 3) the Final EIR reflects the independent judgment of the City on the environmental impacts of the project. The City is also required to make specific findings related to each of the significant effects identified in the EIR as specified in Sections 15091-15093 of the CEQA Guidelines. If mitigation measures are included in the Final EIR, the City also must adopt a Mitigation Monitoring and Reporting Program that will ensure the mitigation measures are implemented.

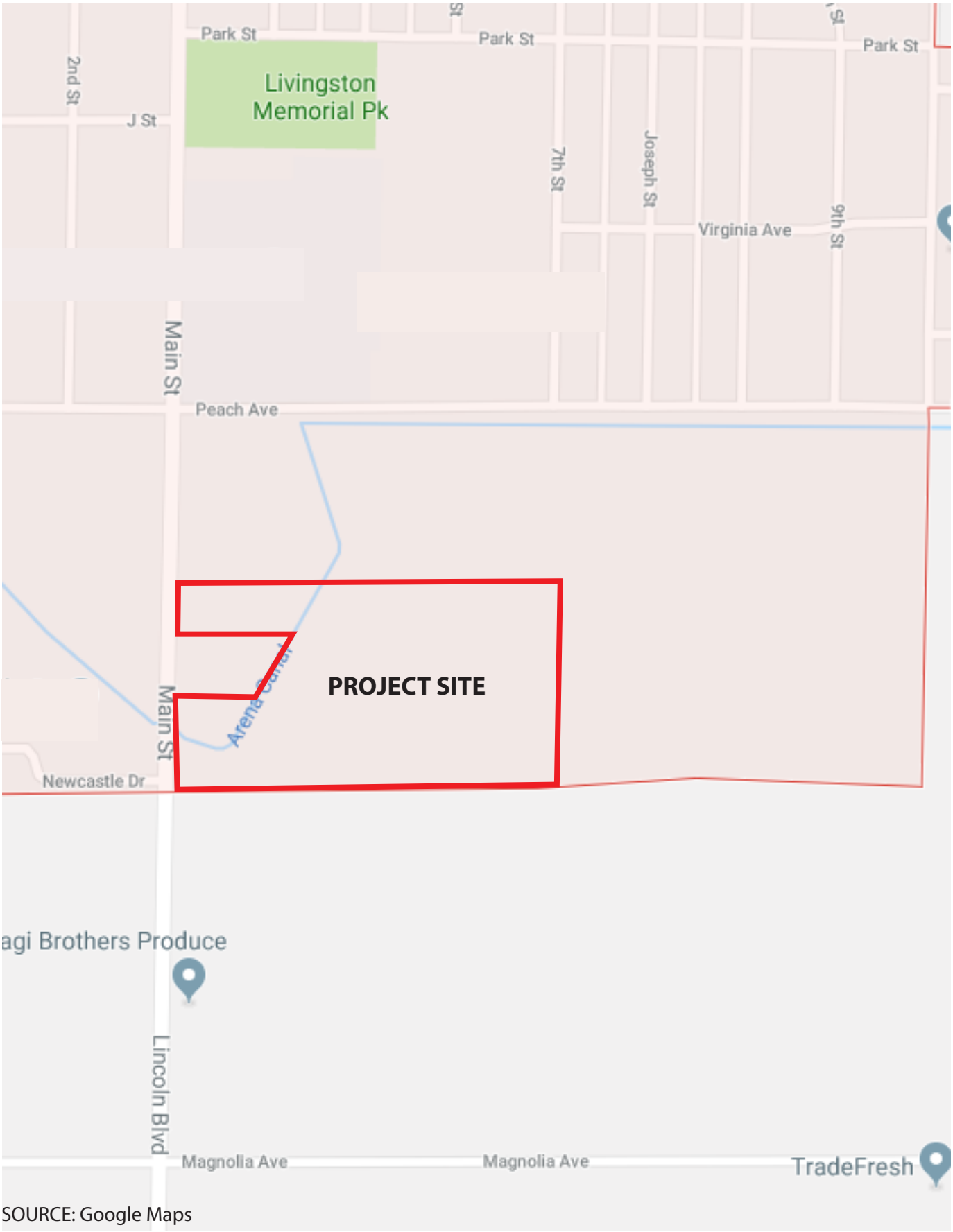
In accordance with CEQA Guidelines Section 15163(c), this EIR is available for public review and comment at the locations and between the dates specified in the NOA, located inside of the cover of this document. Any comments or questions regarding this EIR should be submitted to the City at the following address before the close of the public review period:

City of Livingston
Community Development Department
Attention: Randy Hatch, Contract Planner
1416 C Street
Livingston, CA 95334
rhatch@livingstoncity.com



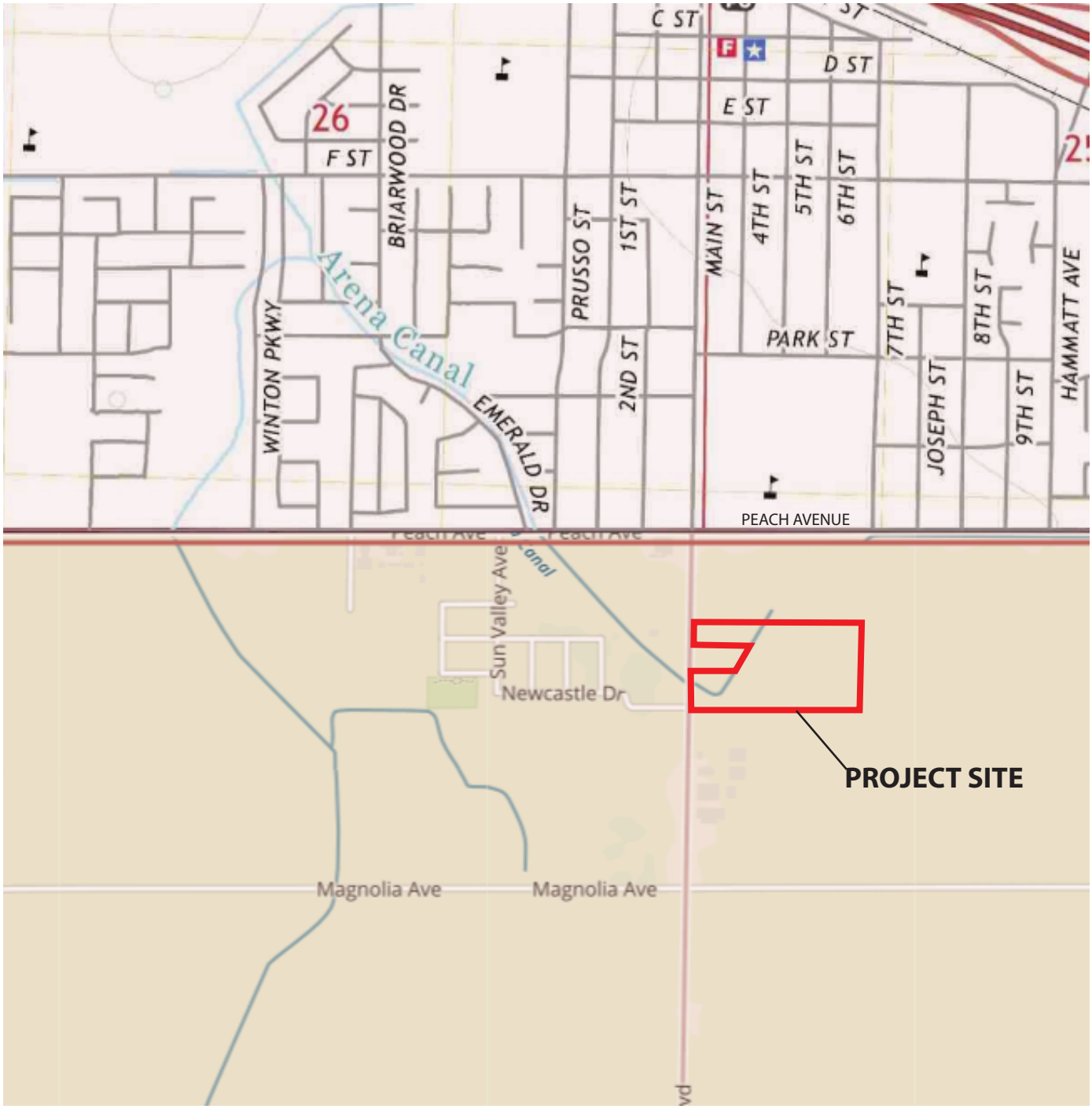
BaseCamp Environmental

Figure 1-1
PROJECT LOCATION MAP

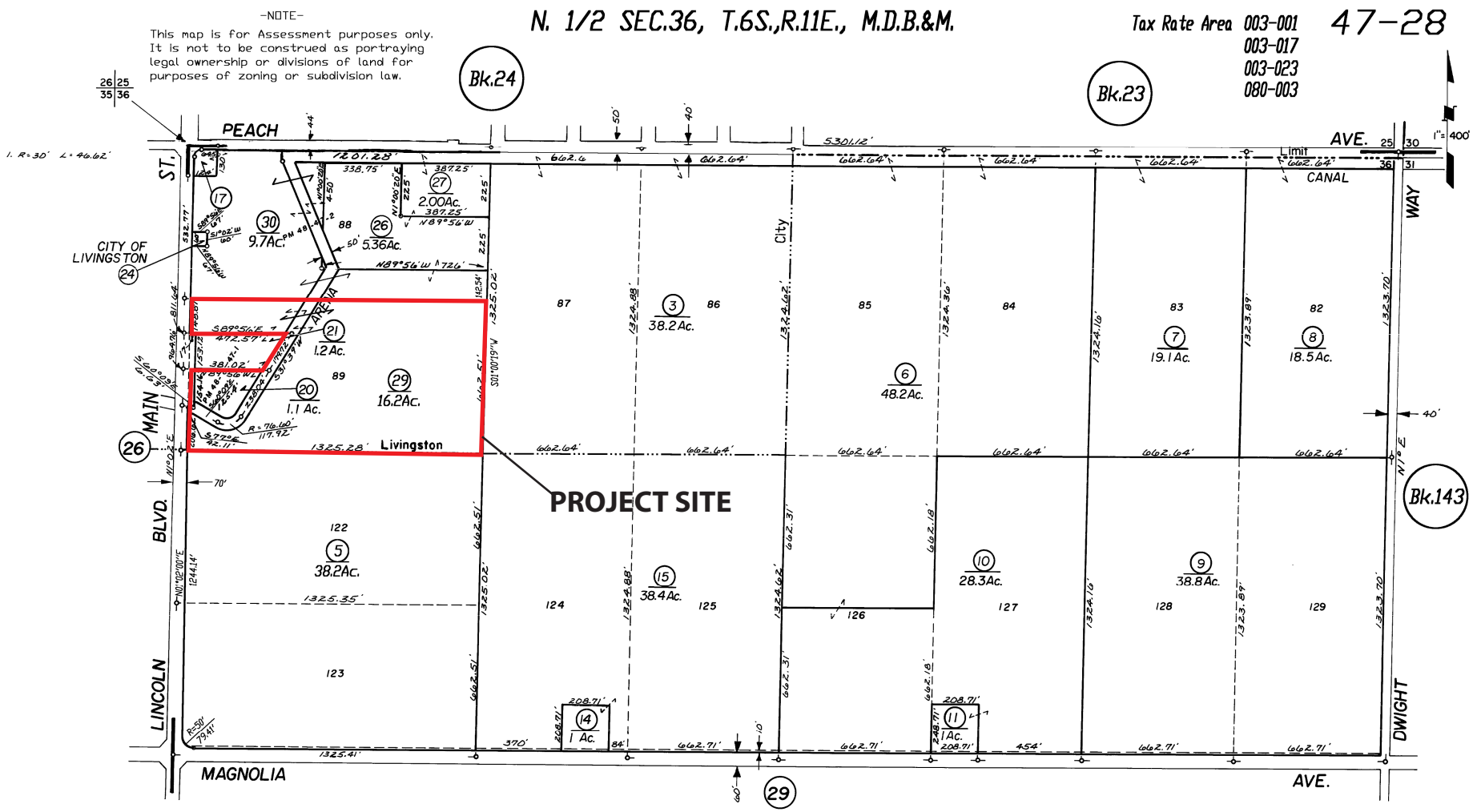


SOURCE: Google Maps

Figure 1-2
LOCAL STREET MAP



SOURCE: Cressey CA USGS Quadrangle Map, T6S, R11S, S25 and Arena CA USGS Quadrangle Map, T6S, R11E, S36.



REDRAWN 11/83
REVISED 4-30-14

Livingston Land & Col. Co. Sub. No. 1, R.M. Vol. 3, Pg. 55

NOTE — Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

Assessor's Map Bk. 47 - Pg. 28
County of Merced, Calif.
1983

Figure 1-4
ASSESSOR PARCEL MAP



SOURCE: Google Maps

2.0 SUMMARY

2.1 PROJECT DESCRIPTION

The project site is located immediately east of Main Street, south of its intersection with Peach Avenue, in southern Livingston. The proposed project includes the construction of 480 apartment units with associated facilities and landscaping on a 17.3-acre undeveloped site in the City of Livingston. The project proposes to construct 20 three-story apartment buildings, each having 24 units per building and eight units per floor. The units would range from one to three bedrooms.

Near the center of the project site, a two-story community building would be constructed. The main floor is proposed to have manager and leasing offices and a grand room with a kitchen for apartment events, along with a parcel room for delivered packages, janitor and utility rooms, and a terrace behind the building. Rooms proposed for the upper floor include a lounge, a game room, an exercise room, and a yoga studio, along with two terraces.

The project would provide 587 parking stalls for residents and visitors, of which 453 would be covered and the remainder would be uncovered. Access to the apartment complex would be provided by a new driveway from Main Street approximately 0.2 miles south of the Peach Avenue/Main Street intersection. Two other access points off Main Street frontage would be available for emergency vehicle use only. South of the main entrance, the project frontage on Main Street would be widened from 55 feet to 110 feet with sidewalk and bicycle lane improvements. From the main entrance north, the Main Street would be widened from 30 feet to 85 feet with sidewalk and bicycle lane improvements.

The project would connect to existing City water and sewer lines in the project vicinity. The project proposes the installation of an onsite storm drainage system which would include a collection system of 18-inch diameter mains and two storm drainage retention basins at the approximate site center. The project proposes to demolish and remove approximately 830 feet of Arena Canal on the project site and replace it with an 84-inch diameter underground concrete pipeline.

The proposed residential development is consistent with, and a permitted use under, the current General Plan designation and zoning of High Density Residential. However, the City requires a project that has more than 25 units or a density of more than 24 units per gross acre to obtain a Conditional Use Permit, so the project would be required to obtain a Conditional Use Permit with approval of the Livingston Planning Commission. The project development would require Site Plan/Design Review approval by the Livingston City Council, with Planning Commission recommendation. Demolition and piping of

Arena Canal, along with the on-site storm drainage system, would require approval from the Merced Irrigation District (MID).

2.2 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The potentially significant impacts of the project, and the mitigation measures proposed to minimize these effects, are shown in Table 2-1 at the end of this chapter. Table 2-1 provides an indication of the significance of impacts, both before and after application of available mitigation measures. With proposed mitigation measures, all the potentially significant impacts of the project would be reduced to a level that is less than significant, except for impacts on Swainson's hawk foraging and nesting habitat.

2.3 AREAS OF CONTROVERSY

A NOP for this EIR was issued with a request for comment from public agencies and interested persons. Table 1-1 lists the four comment letters received in response to the NOP. Issues brought up in the comment letters included the following:

- Impacts on nearby agricultural lands.
- Traffic impacts on local roads and intersections.
- Potential water supply and water quality impacts of project development, including impacts connected to climate change.
- Residual agricultural chemicals and aerially deposited lead.
- Potential for release of hazardous materials/waste by on-site activities.
- Impacts of soil importation.
- Use of dated General Plan and associated EIR in environmental analysis.

2.4 SUMMARY OF ALTERNATIVES

Chapter 18.0, Alternatives, identifies and discusses a range of reasonable alternatives to the project. The alternatives are:

No Project/No Development - defined as no development as proposed by the project, and no future development of the project site. There would be no impacts on existing environmental conditions at the project site. However, this alternative would not meet the project objectives. Undeveloped land may over time have adverse aesthetic and fire hazard impacts.

Reduced Development - assumes the construction of nine apartment buildings with a total of 216 units, rather than the 480 units under the proposed project. Many of the environmental impacts of the proposed project would be reduced: traffic, air quality, noise, and soil disturbance. On other issues, this alternative would have similar impacts to the proposed project, particularly on Swainson's hawk habitat and agricultural land conversion.

Alternative Site Design - setting back residential buildings close to Main Street at a further distance from the street, thereby reducing exposure to traffic noise. Since the number of residential units would remain the same as under the proposed project (480), this alternative may lead to a greater building footprint or taller structures. Relocation of buildings may reduce onsite open space and require redesign of features such as the onsite drainage system.

As the No Project/No Development Alternative would eliminate or avoid most potential environmental effects associated with the proposed project, it would be considered the environmentally superior alternative. The next environmentally superior alternative would be the Reduced Development Alternative.

2.5 SUMMARY OF OTHER CEQA ISSUES

Chapter 19.0, Other CEQA Issues, discusses significant environmental impacts of the project that cannot be avoided or mitigated to a level that would be less than significant. One significant and unavoidable environmental impact of the project was identified – impacts on Swainson's hawk foraging and nesting habitat.

The project would involve irreversible environmental commitments, including energy consumption for project construction and operations. The project would involve the irreversible commitment of construction materials to the construction of buildings, parking spaces, and supporting infrastructure. Construction materials would not be used in highly significant or unusual quantities when compared to similar projects and would be obtained from existing commercial sources. Commitment of the project site to urban uses would involve an essentially irreversible loss of open space and the biological and agricultural resource values associated with it. As discussed in the EIR, agricultural resource impacts would be less than significant, while impacts on Swainson's hawk habitat are significant and unavoidable.

The potential growth-inducing impacts of the project were evaluated. The project is provided for in the adopted Livingston General Plan. The project, therefore, is unlikely to induce population growth or housing development that is not planned for by the Livingston General Plan. Infrastructure already exists at the project site; no utility lines would be extended that could induce growth elsewhere in the area. Because of this, the project would not have a growth-inducing impact.

Although not incorporated as part of CEQA, the State of California has recently emphasized the incorporation of environmental justice in land use and environmental planning. The project site is within Census Tract 6047000304, which is defined as a

disadvantaged community; thus, impacts in this tract are a potential environmental justice issue. However, this EIR evaluated potential environmental impacts of the project, and no significant impacts that could affect members of the disadvantaged community were identified that could not be mitigated to a level that would be less than significant. The project would have no significant adverse impact on environmental justice communities in the City and vicinity.

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.0 AESTHETICS AND VISUAL RESOURCES			
Impact AES-1: Scenic Vistas. Project structures would not substantially obstruct views of mountain ranges to the west and east from other residences in the area.	LS	None required.	-
Impact AES-2: Scenic Resources. There are no significant scenic resources on the project site No other scenic resources or scenic highways are in the area.	NI	None required.	-
Impact AES-3: Visual Character and Quality. The project site currently is a vacant parcel mostly covered with grasses and weeds. The project, with its design and landscaping, may be considered an improvement to onsite aesthetics. Project would be subject to Site Plan and Design Review by the City.	LS	None required.	-
Impact AES-4: Light and Glare. The project would add lighting to a site that currently has no lights. The project would implement a Lighting Plan that would be consistent with California's 2016 Building Energy Efficiency Standards and would be subject to Site Plan and Design Review.	LS	None required.	.
5.0 AIR QUALITY			
Impact AIR-1: Air Quality Plans and Standards – Construction Emissions. Neither project construction nor project operational emissions would exceed SJVAPCD significance thresholds, except for NOx operational emissions. All emissions would be reduced below significance thresholds through the required implementation of SJVAPCD Regulation VIII and Rule 9510.	LS	None required.	-
Impact AIR-2: Exposure of Sensitive Receptors to Pollutants. Sensitive receptors include residences in the vicinity and Livingston High School. Pollutant	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
emissions generated by the project are unlikely to reach nearby sensitive receptors at levels that would have an adverse impact.			
Impact AIR-3: Odors and Other Emissions. Project operations would not generate odors or TAC emissions.	NI	None required.	-
6.0 BIOLOGICAL RESOURCES			
Impact BIO-1: Special-Status Species and Habitats. Project development would involve the potential for impacts on nesting and foraging habitat for Swainson's hawk.	PS	BIO-1: If project construction commences between March 1 and September 15, a pre-construction survey for nesting Swainson's hawks shall be conducted within 0.25 miles of the project site. If active nests are found, a qualified biologist shall determine the need (if any) for temporal restrictions on construction. Any restrictions shall be implemented by the developer as specified by the biologist. The determination for restrictions shall utilize criteria set forth by the California Department of Fish and Wildlife in its "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California" (1994). BIO-2: The project applicant shall compensate for the loss of Swainson's hawk foraging habitat that will result from the project prior to project completion. In accordance with the "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California" (1994), compensation shall occur at a ratio of 1:1. Compensation may be provided by contributions to nearby habitat mitigation banks, such as the Great Valley and Deadman Creek banks in Merced County.	SU
Impact BIO-2: Riparian and Other Sensitive Habitats. No riparian areas or sensitive vegetation communities such as vernal pools were identified on the project site.	NI	None required.	-
Impact BIO-3: Waters of the U.S. and Wetlands. No wetlands or Waters of the U.S. were identified on the	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
project site. The Arena Canal is exempt from Section 404 permit requirements.			
Impact BIO-4: Fish and Wildlife Migration. Small trees and grassland on the project site could provide nesting habitat for smaller migratory birds. Large trees in the vicinity could provide nesting habitat for raptors and larger birds.	PS	BIO-3: If project construction or vegetation removal commences during the general nesting season (March 1 through July 31), a pre-construction survey on the project site for all species of nesting birds shall be conducted. If active nests are found, work in the vicinity of the nests shall be delayed until the young have fledged.	LS
Impact BIO-5: Local Biological Requirements. The project would be required to comply with Livingston Municipal Code Section 5-4-8 if any onsite trees meet the definition of a mature tree. The City has no other ordinances applicable to biological resources.	LS	None required.	-
Impact BIO-6: Habitat Conservation Plans. No Habitat Conservation Plans or similar plans are applicable to the project site.	NI	None required.	-
7.0 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES			
Impact CULT-1: Historical Resources. There are no existing structures on or near the site that might be considered historic.	LS	None required.	-
Impact CULT-2: Archaeological Resources. No record of archaeological resources on project site. However, it is possible that unknown resources may be uncovered during project construction.	PS	CULT-1: If any subsurface cultural resources are encountered during construction of the project, all construction activities within 50 feet of the encounter shall be halted until a qualified archaeologist can examine these materials, determine their significance, and if significant recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended mitigation measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston Community Development Department shall be notified, and the project developer shall be responsible for	LS

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.	
Impact CULT-3: Human Burials. It is not expected that any human burials, particularly those of Native Americans, would be uncovered by construction on the project site. However, it is conceivable that excavation associated with the project could uncover a previously unknown burial.	PS	CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.	LS
Impact CULT-4: Tribal Cultural Resources. Livingston has not been identified as an area of interest by any tribe for consultation. Project construction could potentially uncover previously unknown archaeological resources or burials, including those of Native American origin.	PS	Mitigation Measures CULT-1 and CULT-2.	LS
8.0 GEOLOGY AND SOILS			
Impact GEO-1: Faulting and Seismicity. There are no active or potentially active faults within or near the project site. The project site would be exposed to	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
seismic shaking, but compliance with the adopted California Building Code would minimize seismic hazards.			
Impact GEO-2: Other Geologic Hazards. The project site is not prone to landslide hazards or liquefaction. The project is not expected to change existing conditions related to geologic stability; required engineering design would avoid potential adverse effects.	LS	None required.	-
Impact GEO-3: Soil Erosion. The project site is potentially susceptible to water and wind erosion. Project would be required to obtain a Construction General Permit, which has requirements that would reduce soil erosion impacts.	PS	GEO-1: Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water requirements. The SWPPP shall be available on the construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans.	LS
Impact GEO-4: Expansive Soils. Project site soils have low shrink-swell potential.	NI	None required.	-
Impact GEO-5: Paleontological Resources and Unique Geological Features. The project site does not contain unique geological features any known paleontological resources; however, project construction could unearth paleontological materials of unknown significance.	PS	GEO-2: If any subsurface paleontological resources are encountered during construction of the project, all construction activities within 50 feet of the encounter shall be halted until a qualified paleontologist can examine these materials, determine their significance, and if significant recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston	LS

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.	
Impact GEO-6: Access to Mineral Resources. There are no identified mineral resource areas on or near the project site.	NI	None required.	-
9.0 GREENHOUSE GAS EMISSIONS			
Impact GHG-1: Project GHG Emissions and Consistency with Applicable Plans and Policies. Unmitigated construction GHG emissions would be reduced by compliance with applicable State and SJVAPCD rules and regulations. Operational GHG emissions would be reduced by project features by an amount that complies with State and SJVAPCD plans.	LS	None required.	-
10.0 HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Hazardous Material Transportation, Use, and Storage. Hazardous materials that are likely to be used and stored on the project site would include cleaning products and landscaping chemicals such as pesticides, herbicides, and fertilizers. These would be used or stored in relatively small quantities, which would not present a health hazard to residents either onsite or in the vicinity.	LS	None required.	-
Impact HAZ-2: Hazardous Material Releases. Project construction would create only a limited potential for hazardous material releases. The required SWPPP and other typical contractor practices shall minimize construction impacts. Compliance with applicable local,	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
state, and federal regulations would minimize operational impacts. Livingston High School is located within one-quarter mile of the project site, but the project would not generate hazardous emissions.			
Impact HAZ-3: Hazardous Material Sites. No hazardous material sites were identified on or adjacent to the project site. However, given past and present agricultural use, residual agricultural chemicals could exist at levels that are a risk to health.	PS	HAZ-1: Prior to final site plan approval, the project applicant shall conduct a Phase I Environmental Site Assessment to determine the potential presence of soil contamination on the project site, particularly of residual agricultural chemicals and aerially deposited lead. If this assessment determines that such a potential exists, then a Phase II Environmental Site Assessment shall be conducted to determine the location and extent of soil contamination. The Phase II Environmental Site Assessment shall present its analysis and conclusions and, if necessary, make recommendations for remediation of any contamination determined to present a potential risk to human health. All recommendations shall be implemented prior to the start of building construction.	LS
Impact HAZ-4: Airport Hazards. There are no public or public-use airports in the Livingston area.	NI	None required.	-
Impact HAZ-5: Interference with Emergency Vehicle Access and Evacuations. Project construction could require restrictions on use of Main Street. Project operations would not obstruct emergency access or evacuations.	PS	HAZ-2: Prior to the start of project construction, the developer shall prepare and implement a Traffic Control Plan, which shall include such items as traffic control requirements, resident notification of access closure, and daily access restoration. The contractor shall specify dates and times of road closures or restrictions, if any, and shall ensure that adequate access will be provided for emergency vehicles. The Traffic Control Plan shall be reviewed and approved by the City Department of Public Works and shall be coordinated with the Livingston Police Department and the Merced County Fire Department if construction will require road closures or lane restrictions.	LS
Impact HAZ-6: Wildfire Hazards. Project is in an urbanizing area that has been farmed and has not been designated a fire hazard area by Cal Fire. The project	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
would reduce any existing fire hazard by replacing the existing grasses and weeds with a paved and developed area.			
11.0 HYDROLOGY AND WATER QUALITY			
Impact HYDRO-1: Surface Water Resources and Quality. Construction activities could loosen soils that could eventually enter nearby surface waters. Project operations could generate contaminants that enter surface waters. Compliance with Construction General Permit and City's SWMP would minimize impacts.	PS	In addition to Mitigation Measure GEO-1, the following measures shall be implemented: HYDRO-1: The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans. HYDRO-2: If required, the developer shall execute a Maintenance Agreement with the City for stormwater BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement costs of the proposed treatment devices built for the project. HYDRO-3: The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.	LS
Impact HYDRO-2: Groundwater Resources and Quality. Project would be served by the City's water system, which relies in part on groundwater. Project can be accommodated from City's existing supplies without requiring additional groundwater. The project would reduce recharge area but would not significantly affect recharge of local subbasin. Groundwater quality would not be affected by proposed retention basins.	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Impact HYDRO-3: Drainage Patterns and Runoff. Project would alter existing drainage patterns and runoff volumes, but project features would reduce impacts.	LS	None required.	-
Impact HYDRO-4: Flood Hazards. The project site is not within a FEMA-designated 100-year floodplain or a 200-year flood zone. The project site is unlikely to be subject to flooding from dam or levee failure, and it would not be flooded by seiches or tsunamis.	LS	None required.	-
Impact HYDRO-5: Consistency with Water Quality and Groundwater Management Plans. The project would comply with the City's SWMP and the Groundwater Sustainability Plan for the Merced Subbasin.	NI	None required.	-
12.0 LAND USE, AGRICULTURE, AND POPULATION			
Impact LUP-1: Division of Communities. The project would not divide existing residential communities in the area.	NI	None required.	-
Impact LUP-2: Conflict with Applicable Plans, Policies, and Regulations. The project would be consistent with the City General Plan and zoning. Project would comply with City ordinances and Livingston Municipal Code.	LS	None required.	-
Impact LUP-3: Conversion of Farmland. The project site is classified as Prime Farmland and Farmland of Statewide Importance. The Livingston General Plan EIR discusses conversion impacts. The project is consistent with the General Plan designation for the site, which is High Density Residential. Revisions to the project, or conditions imposed on the project, are unlikely to avoid or reduce the conversion of Farmland on the project site. Pursuant to CEQA Guidelines Section 15152(d), this environmental impact does not	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
require additional consideration under CEQA.			
Impact LUP-4: Agricultural Zoning and Williamson Act. The project site is not zoned for agriculture and is not under a Williamson Act contract or within a Farmland Security Zone.	NI	None required.	-
Impact LUP-5: Indirect Conversion of Agricultural Lands. Adjacent agricultural lands to the east and south has been designated for future development by the Livingston General Plan. All project construction would occur on site and would not encroach upon adjacent farmland or affect access to farmland.	LS	None required.	-
Impact LUP-6: Inducement of Unplanned Population Growth. The proposed development is anticipated by, and would be consistent with, the Livingston General Plan. Employment opportunities would be limited in number and can be expected to be met from the existing population in the Livingston area.	LS	None required.	-
Impact LUP-7: Displacement of Housing and People. The project site is currently vacant and has no structures, residential or otherwise.	NI	None required.	-
13.0 NOISE			
Impact NOISE-1: Exposure to Noise Levels in Excess of Standards – Project Operations. Interior noise levels of apartment building close to Main Street may exceed standards. Construction of the proposed project would involve temporary increases in ambient noise levels.	PS	NOISE-1: The building plans for any buildings located near the western boundary of the project site shall be reviewed by a qualified acoustical professional to ensure that interior building noise levels comply with the City's interior noise level standard of 45 dB L_{dn}. If it is determined that a building does not comply with this standard, then the acoustical professional shall recommend measures that would bring the building into compliance, which the project applicant shall incorporate into the site design. Measures may include, but are not limited to, the provision of air conditioning or other suitable mechanical ventilation so that residents may close	LS

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		windows and doors to reduce noise levels.	
Impact NOISE-2: Exposure to Noise Levels in Excess of Standards – Project Construction. Construction of the proposed project would involve temporary increases in ambient noise levels.	PS	NOISE-2: Project construction shall be restricted to the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday. No construction shall occur on Sundays or national holidays without prior approval from the City Planning Director. NOISE-3: All equipment used on the construction site during all project phases shall be fitted with mufflers in accordance with manufacturers' specifications. Mufflers shall be installed on the equipment at all times on the construction site.	LS
Impact NOISE-3: Groundborne Vibrations. The project would not involve, or be in proximity to, any potential groundborne vibration sources. Project construction would not generate vibrations that would disturb adjacent residence.	LS	None required.	-
Impact NOISE-4: Airport and Airstrip Noise. There are no public airports or private airstrips in the Livingston area.	NI	None required.	-
14.0 PUBLIC SERVICES AND RECREATION			
Impact PSR-1: Fire Protection Service. New or expanded facilities may be required in the future, but project would not trigger this requirement. Public Facility Fees would be paid.	LS	None required.	-
Impact PSR-2: Police Protection Services. New or expanded facilities may be required in the future, but project would not trigger this requirement. Public Facility Fees would be paid.	LS	None required.	-
Impact PSR-3: Schools. The project would likely generate new student load. The project would be responsible for the payment of school impact fees, the payment is considered by State law to be adequate	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
mitigation.			
Impact PSR-4: Parks and Recreational Facilities. The project would generate a demand for park and recreational services, but it is not expected to require new or expanded recreational facilities or services, and park in-lieu fees would be paid.	LS	None required.	-
Impact PSR-5: Other Public Facilities. The project would not generate demand for library, hospital, and courthouse services such that new or expanded facilities would be required.	LS	None required.	-
15.0 TRANSPORTATION			
Impact TRANS-1: Conflict with Traffic Plans, Ordinances, and Policies. Under Existing Plus Project conditions, three intersections affected by the project would not operate at LOS above minimally acceptable City of Livingston standards. Improvements at all three intersections would lead to LOS operations at minimally acceptable levels or greater.	NA	RSI-1: The project applicant will pay a fair share of the cost of installing traffic signals at the intersections of Hammatt Avenue and State Route 99 Northbound Ramps, and Hammatt Avenue and SR 99 Southbound Ramps. Fair-share costs shall be determined by the City Engineer. RSI-2: The project applicant will pay a fair share of the cost of splitting the single-lane southbound approach at the intersection of Hammatt Avenue and F Street into a combined through/left-turn lane and an exclusive southbound-to-westbound right-turn lane. Fair-share costs shall be determined by the City Engineer.	NA
Impact TRANS-2: Conflicts with Non-Motor Vehicle Transportation Plans. it is expected that existing public transit can accommodate the additional passengers the project would generate, which would be consistent with the goals of the RTP. Project would provide sidewalks and allow for bicycle lanes.	LS	None required.	-
Impact TRANS-3: Consistency with CEQA Guidelines Section 15064.3(b). Project VMT per capita would be approximately 11.50, which is below the threshold of	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
15% below VMT per capita for the MCAG region,			
Impact TRANS-4: Safety Hazards. The Main Street frontage would be widened and improved, including a median turn lane and bicycle and pedestrian facilities.	LS	None required.	-
Impact TRANS-5: Emergency Access. Adequate emergency access would be provided to the project site.	LS	None required.	-
16.0 UTILITIES AND ENERGY			
Impact UTIL-1: Relocation or Construction of New Facilities. The project would connect to existing water, sewer, and electricity facilities in existing streets in the immediate project vicinity. Onsite storm drainage facilities would be constructed; the project would not connect to the City's storm drainage system.	LS	None required.	-
Impact UTIL-2: Water Systems and Supply. City has adequate water supplies for project. Existing water lines are in vicinity.	LS	None required.	-
Impact UTIL-3: Wastewater Treatment Capacity. The Domestic Wastewater Treatment Plant has available capacity to accommodate project demands.	LS	None required.	-
Impact UTIL-4: Solid Waste. The project would not generate a substantial demand for solid waste services, either from construction or operations. Existing landfills in the County would have adequate capacity to accommodate project solid waste. The project would comply with applicable federal, state, and local statutes and regulations related to solid waste.	LS	None required.	-
Impact UTIL-5: Energy and Telecommunications Facilities. Existing electrical, natural gas, and telephone and cable television lines either are available near the project site or can be extended with no significant	LS	None required.	-

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
impacts.			
Impact UTIL-6: Project Energy Consumption. Neither project construction nor operations would consume energy in a manner that is wasteful, inefficient, or unnecessary.	LS	None required.	-
Impact UTIL-7: Consistency with Energy Plans. While the City does not have adopted plans for renewable energy or energy efficiency, it has adopted the 2016 versions of both the California Energy Code and CALGreen, and the project would be required to comply with these codes.	LS	None required.	-
17.0 CUMULATIVE IMPACTS			
Transportation - Under Cumulative Plus Project conditions, five intersections affected by the project would not operate at LOS above minimally acceptable City of Livingston standards. Improvements at all five intersections would lead to LOS operations at minimally acceptable levels or greater.	NA	In addition to Measures RSI-1 and RSI-2, the following measure shall be implemented: RSI-3:The project applicant will pay a fair share of the cost of installing traffic signals at the intersections of Hammatt Avenue and F Street, Hammatt Avenue and Peach Avenue, and Main Street and Peach Avenue. Fair-share costs shall be determined by the City Engineer.	NA

Notes: PS = Potentially Significant, LS = Less than Significant, NI = No Impact, NA = Not Applicable

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The 17.3-acre project site is located immediately east of Main Street, south of its intersection with Peach Avenue, in southern Livingston (see Figures 1-1 to 1-5). The project site consists of two parcels identified as Assessor's Parcel Number (APN) 047-280-020 and APN 047-280-029. The site is shown on the U.S. Geological Survey's Cressey, California, 7.5-minute quadrangle map as being within Section 36, Township 6 South, Range 11 East, Mt. Diablo Base and Meridian. The approximate latitude and longitude of the project site is 37º 22' 20" North and 120º 43' 17" West, respectively.

3.2 PROJECT OBJECTIVES

The primary objective of the proposed project is to develop an apartment complex for occupancy and use by existing and future City residents. The project is intended to help implement the Housing Element of Livingston General Plan. The project would be consistent with the following policies in the Housing Element of the Livingston General Plan:

- Encourage the development of a variety of housing types at various prices in order to maintain a diverse housing stock for residents of all income levels.
- Encourage multifamily and mixed-use development located close to areas that provide a range of services and transportation options.
- Maintain an adequate housing stock to accommodate increases in the work force.
- Promote safe and healthy living environments for all residents regardless of income level, through the development of safe and suitable housing as well as economic opportunities.

3.3 PROJECT DETAILS

The proposed project includes the construction of 480 apartment units with associated facilities and landscaping on a 17.3-acre undeveloped site in the City of Livingston. Additional project components include circulation, parking and utility improvements. Figure 3-1 shows the project site plan with landscaping.

Proposed Structures

The project proposes to construct 20 three-story apartment buildings, all approximately 38.75 feet in height. Figure 3-2A shows the typical apartment building elevations. Three types of apartment buildings would be constructed, each type having 24 units per building, eight units per floor. Seven buildings, designated Building Type A, would each have 12 one-bedroom units and 12 two-bedroom units. Five buildings, designated Building Type B, would each have 24 two-bedroom units. Eight buildings, designated Building Type C, would each have 12 two-bedroom units and 12 three-bedroom units. The apartment complex would have a total of 84 one-bedroom units, 300 two-bedroom units, and 96 three-bedroom units, for a total of 480 units. The upper stories of all apartment buildings would be accessed by stairs

A two-story community building approximately 29 feet in height would be constructed near the center of the project site. Figure 3-2B shows the proposed community building elevations. The community building would have approximately 3,644 square feet of floor area on the main floor and approximately 2,699 square feet of floor area on the upper floor. The main floor is proposed to include manager and leasing offices and a grand room with a kitchen for apartment events, along with a parcel room for delivered packages, janitor and utility rooms, and a terrace behind the building. Rooms proposed for the upper floor include a lounge, a game room, an exercise room, and a yoga studio, along with two terraces. Storage rooms and restrooms would be available on both floors. Access to both floors would be provided by stairs and an elevator behind the community building, in an enclosed area, A community patio, an outdoor pool, and a spa would be located.

Access and Utilities

Access to the apartment complex from Main Street would be provided by a new driveway, approximately 50 feet in width, located approximately 0.2 miles south of the Peach Avenue/Main Street intersection. Two other access points off Main Street would be available for emergency vehicle use only and accessed through a Knox box – one north of the main entrance and one south. The project would provide 587 parking stalls for residents and visitors, which would exceed the 528 stalls required by City parking standards. Of the total proposed parking stalls, 453 would be covered and the remaining 134 would be uncovered. Covered parking would be provided by flat-top structures.

The proposed project would connect to an existing 12-inch diameter water line beneath Main Street at the project frontage (Figure 3-3). Separate onsite lines would be installed for potable water (4-inch diameter) and for firefighting flows (8-inch diameter). Onsite sanitary sewer lines would collect wastewater and ultimately send it to the City's wastewater system by connecting to an 8-inch diameter sewer line beneath Newcastle Drive west of the project site. Connection to the City's water and sewer systems are subject to confirmation of available capacity for each system.

The project proposes the installation of an onsite storm drainage system which would include a collection system consisting of 18-inch diameter mains. The collected

stormwater would be sent to two retention basins at the approximate site center. Both retention basins would be connected by a French drain system with catch basins and perforated pipes approximately 36 inches in diameter, which would facilitate percolation of retained runoff into the ground. One of these basins is proposed for use as a dog park when no water is in the basin. The storm drainage system would be subject to the approval of MID.

Landscaping and Lighting

Landscaping would be incorporated throughout the project site. Plant material has been selected that performs well under Livingston conditions. Drought-tolerant hardy shrubs and groundcover are proposed for the perimeter of the landscape, and low- to medium-water use shrubs around buildings and in high-profile areas. Other unpaved areas would consist of turf, concentrated at the site center. Screening trees proposed around the perimeter of the project site include species of cedar, pine, ironbark, and oak. Accent trees are proposed for planting next to buildings, including bottle tree, upright hornbeam, and chanticleer pear.

All lighting structures for the apartment complex would be shielded to direct light and glare towards the ground. The project would be consistent with California's 2016 Building Energy Efficiency Standards, Title 24, Part 6, which includes lighting controls such as the use of LED light fixtures, time switches, and motion sensors for all exterior lighting. Requirements for street lighting along the length of the project frontage on Main Street would be provided by the City of Livingston.

Construction

Project construction would include activities such as excavating, grading, steel framing, masonry, installation of infrastructure, paving of parking areas, and landscaping. Types of construction equipment expected to be used at the site include dozers, backhoes, loaders, forklifts, cranes, haul trucks, and graders. It is anticipated that construction would be conducted in three phases. The first phase would be grading, excavation and site preparation, and installation of utilities. The second phase would involve building construction, and the third phase would be completion of internal access roads, sidewalks, access gates, perimeter fencing, and landscaping.

The project proposes to improve the segments of Main Street adjacent to the project site. South of the main entrance, Main Street would be widened from 55 feet to 110 feet with improvements. This Main Street segment would consist of four 12-foot-wide vehicle lanes, one 16-foot-wide median/turn lane, 8-foot-wide bike lanes on each side, and 15-foot-wide areas with curb, gutter, sidewalks and landscaping on each side. The west side would have a meandering sidewalk, while the east side would have a sidewalk between two landscape strips.

North of the main entrance, Main Street would be widened from 30 feet to 85 feet with improvements. This segment would consist of two 12-foot-wide vehicle lanes, two 15-foot-wide vehicle lanes, one 8-foot-wide median, one 8-foot-wide bike lane on the east

side, and one 15-foot-wide area with a sidewalk between two landscape strips on the east side. Curb and gutter on this segment would be installed only on the east side.

The project proposes to demolish and remove approximately 830 feet of the concrete-lined Arena Canal, owned by MID and located in an easement that crosses the project site in a southwest to northeast orientation. This portion of Arena Canal would be replaced with an 84-inch diameter concrete irrigation pipeline to be buried within the existing easement. The southern end of the pipeline would cross Main Street to connect to a segment of the existing pipeline west of Main Street. The northern end would also connect to an existing MID pipeline segment. All construction and demolition work on this canal segment would be coordinated with and subject to the approval of the MID.

3.4 PERMITS AND APPROVALS

The proposed residential development is consistent with the current Livingston General Plan designation of High Density Residential, and it is a permitted use under the current zoning R-3 (High Density Residential). However, the City requires a project that has more than 25 units or a density of more than 24 units per gross acre to obtain a Conditional Use Permit. Since the project proposes more than 25 units, it must obtain a Conditional Use Permit, which must receive approval of the Livingston Planning Commission.

The project would require Site Plan/Design Review approval by the Livingston City Council, with a Planning Commission recommendation. Should the project be approved by the City, building and grading permits from the City would be required, along with encroachment permit for work in City streets. The landscaping design would be required to conform to the City's Standards of Landscape Design (Livingston Municipal Code Section 9-11-3) and require City approval prior to issuance of a building permit.

MID approval would be required for demolition and piping of the segment of Arena Canal on the project site, and for the proposed on-site storm drainage system. Permits and approvals that may be required from other agencies are discussed in the technical chapters of this EIR.



Figure 3-1
SITE PLAN WITH LANDSCAPING



BUILDING A - FRONT EXTERIOR ELEVATION (REAR ELEVATION SIMILAR)

SCALE: 1/8" = 1'-0"



BUILDING A - RIGHT SIDE EXTERIOR ELEVATION (LEFT SIDE ELEVATION SIMILAR)

SCALE: 1/8" = 1'-0"

FINISH LEGEND

PRIMARY COLOR:
SHERWIN WILLIAMS
'PURE WHITE'
SW 7005

ACCENT COLOR 1:
SHERWIN WILLIAMS
'JADE DRAGON'
SW 9129

ACCENT COLOR 2:
SHERWIN WILLIAMS
'REPOSE GRAY'
SW 7015

TRIM COLOR:
SHERWIN WILLIAMS
'MANOR HOUSE'
SW 7505

METAL GUARDRAIL
ANODIZED ALUMINUM
DARK BRONZE

ROOFING:
CERTAINTEED
LANDMARK PREMIUM
'GEORGETOWN GRAY'

PROPOSED DEVELOPMENT:

The Villages at Main

Lincoln Blvd.
Livingston, CA.

PLANNING
ARCHITECTURE

api

ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356

ph. 209.577.4661
fx. 209.577.0213

www.apiarc.com

SHEET:

A12

OF 13

api COPYRIGHT 2019

K:\2006-01 Design\Working\...\elevations.dwg, 7/31/19 11:02:24 AM, Ed Engel

Figure 3-2A
TYPICAL ELEVATIONS, APARTMENT BUILDINGS



COMMUNITY BUILDING - FRONT EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"



COMMUNITY BUILDING - LEFT SIDE EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"



COMMUNITY BUILDING - RIGHT SIDE EXTERIOR ELEVATION

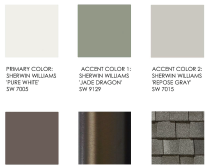
SCALE: 1/8" = 1'-0"



COMMUNITY BUILDING - REAR EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

FINISH LEGEND



PRIMARY COLOR: SHERWIN WILLIAMS 'PURE WHITE' SW 7005

ACCENT COLOR 1: SHERWIN WILLIAMS 'JADE DRAGON' SW 9129

ACCENT COLOR 2: SHERWIN WILLIAMS 'REPOSE GRAY' SW 7015

TRIM COLOR: SHERWIN WILLIAMS 'MANOR HOUSE' SW 7505

METAL GUARDRAIL: ANODIZED ALUMINUM DARK BRONZE

ROOFING: CERTAINTEED LANDMARK PREMIUM 'GEORGETOWN GRAY'

PROPOSED DEVELOPMENT:

The Villages at Main

Lincoln Blvd.
Livingston, CA.

PLANNING
ARCHITECTURE

api

ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356

ph. 209.577.4661
fx. 209.577.0213

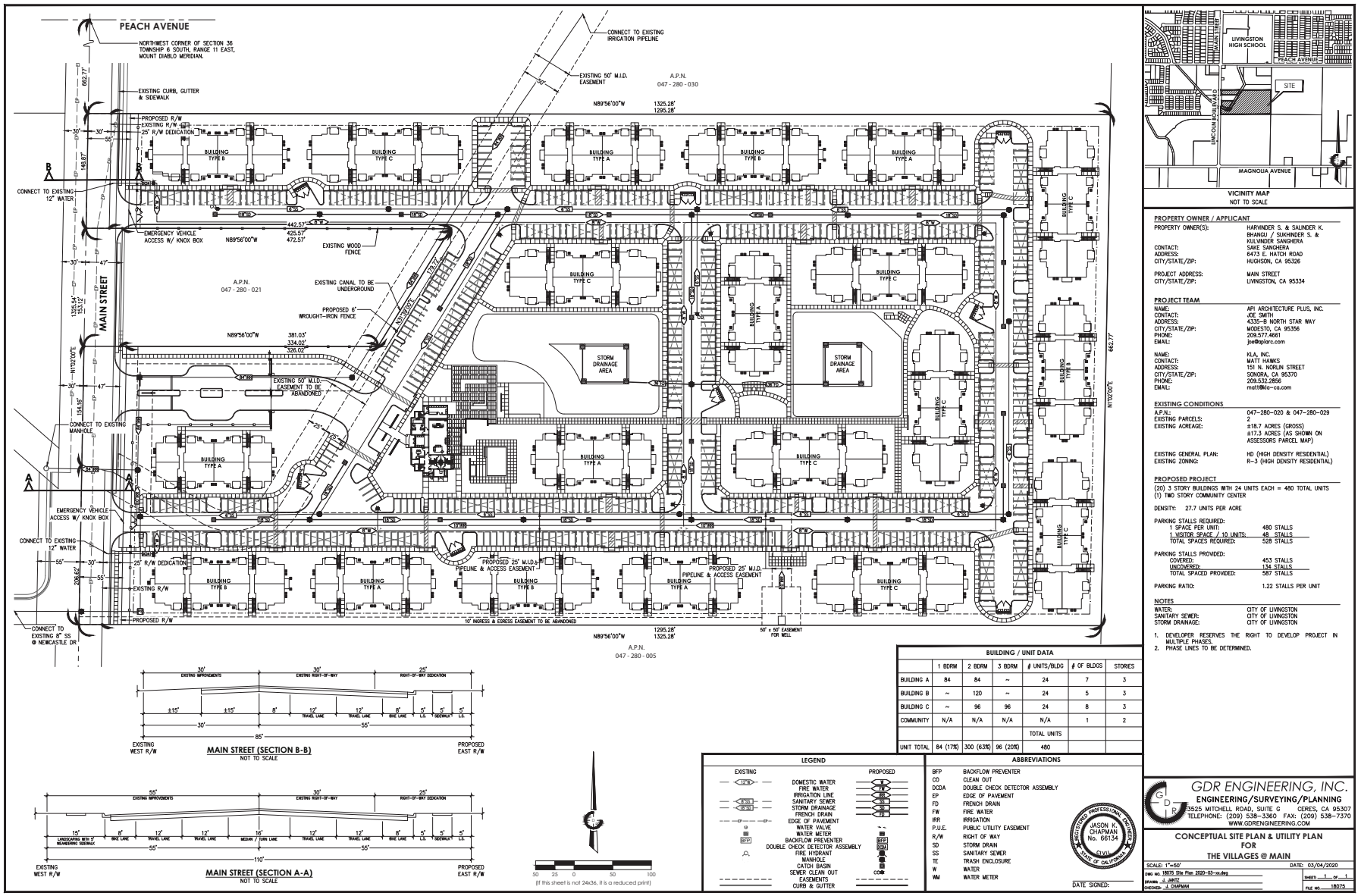
www.apiarc.com

SHEET:

A13

OF 13

api COPYRIGHT 2015



VICINITY MAP
NOT TO SCALE

BUILDING / UNIT DATA

	1 BDRM	2 BDRM	3 BDRM	# UNITS/BLDG	# OF BLDGS	STORIES
BUILDING A	84	84	~	24	7	3
BUILDING B	~	120	~	24	5	3
BUILDING C	~	96	96	24	8	3
COMMUNITY	N/A	N/A	N/A	N/A	1	2
				TOTAL UNITS		
UNIT TOTAL	84 (17%)	300 (63%)	96 (20%)	480		

LEGEND

EXISTING / PROPOSED
DOMESTIC WATER
FIRE WATER
IRRIGATION LINE
SANITARY SEWER
STORM DRAINAGE
FRENCH DRAIN
EDGE OF PAVEMENT
WATER VALVE
WATER METER
BACKFLOW PREVENTER
DOUBLE CHECK DETECTOR ASSEMBLY
FIRE HYDRANT
MANHOLE
CATCH BASIN
SEWER CLEAN OUT
EASEMENTS
CURB & GUTTER

ABBREVIATIONS

BFP	BACKFLOW PREVENTER
CO	CLEAN OUT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
EP	EDGE OF PAVEMENT
FD	FRENCH DRAIN
FW	FIRE WATER
IRR	IRRIGATION
P.U.E.	PUBLIC UTILITY EASEMENT
R/W	RIGHT OF WAY
SD	STORM DRAIN
SS	SANITARY SEWER
TE	TRASH ENCLOSURE
W	WATER
WM	WATER METER

REGISTERED PROFESSIONAL ENGINEER — JASON K. CHAPMAN No. 66134 — CIVIL — STATE OF CALIFORNIA

DATE SIGNED:

PROPERTY OWNER / APPLICANT

PROPERTY OWNER(S):	HARVINDER S. & SALINDER K. BHANOJ / SUKHVINDER S. & KULVINDER SANGHERA
CONTACT:	SAKE SANGHERA
ADDRESS:	6473 E. HATCH ROAD
CITY/STATE/ZIP:	HUGHSON, CA 95326
PROJECT ADDRESS:	MAIN STREET
CITY/STATE/ZIP:	LIVINGSTON, CA 95334

PROJECT TEAM

NAME:	API ARCHITECTURE PLUS, INC.
CONTACT:	JOE SMITH
ADDRESS:	4335-B NORTH STAR WAY
CITY/STATE/ZIP:	MODESTO, CA 95356
PHONE:	209.577.4661
EMAIL:	joe@aplarc.com
NAME:	KLA, INC.
CONTACT:	MATT HANKS
ADDRESS:	151 N. NORLIN STREET
CITY/STATE/ZIP:	SONORA, CA 95370
PHONE:	209.532.2856
EMAIL:	matt@kla-co.com

EXISTING CONDITIONS

A.P.N.:	047-280-020 & 047-280-029
EXISTING PARCELS:	2
EXISTING ACREAGE:	±18.7 ACRES (GROSS) ±17.3 ACRES (AS SHOWN ON ASSESSORS PARCEL MAP)
EXISTING GENERAL PLAN:	HD (HIGH DENSITY RESIDENTIAL)
EXISTING ZONING:	R-3 (HIGH DENSITY RESIDENTIAL)

PROPOSED PROJECT

(20) 3 STORY BUILDINGS WITH 24 UNITS EACH = 480 TOTAL UNITS
(1) TWO STORY COMMUNITY CENTER

DENSITY: 27.7 UNITS PER ACRE

PARKING STALLS REQUIRED:

1 SPACE PER UNIT:	480 STALLS
1 VISITOR SPACE / 10 UNITS:	48 STALLS
TOTAL SPACES REQUIRED:	528 STALLS

PARKING STALLS PROVIDED:

COVERED:	453 STALLS
UNCOVERED:	134 STALLS
TOTAL SPACED PROVIDED:	587 STALLS

PARKING RATIO: 1.22 STALLS PER UNIT

NOTES

WATER:	CITY OF LIVINGSTON
SANITARY SEWER:	CITY OF LIVINGSTON
STORM DRAINAGE:	CITY OF LIVINGSTON

1. DEVELOPER RESERVES THE RIGHT TO DEVELOP PROJECT IN MULTIPLE PHASES.
2. PHASE LINES TO BE DETERMINED.

GDR ENGINEERING, INC.
ENGINEERING/SURVEYING/PLANNING
3525 MITCHELL ROAD, SUITE G CERES, CA 95307
TELEPHONE: (209) 538-3360 FAX: (209) 538-7370
WWW.GDRENGINEERING.COM

CONCEPTUAL SITE PLAN & UTILITY PLAN FOR THE VILLAGES @ MAIN

SCALE: 1"=50' DATE: 03/04/2020
DWG NO. 18075 Site Plan 2020-03-xx.dwg SHEET 1 OF 1
DRAWN: A. JANTZ FILE NO. 18075
CHECKED: J. CHAPMAN

Figure 3-3
PROPOSED SITE PLAN

4.0 AESTHETICS AND VISUAL RESOURCES

ENVIRONMENTAL SETTING

Aesthetics/Visual Resource Background

Aesthetic values and sensitivity vary significantly from person to person, which makes aesthetic and visual resource impacts difficult to assess. This analysis will provide a qualitative assessment of aesthetics and visual resource values. Visual/aesthetic values of a geographic area are considered to be a function of the following:

1) Landscape character
2) Distance between the affected landscape and viewer
3) Number and sensitivity of viewers

Landscape character may be defined as distinctive, common, or minimal. "Distinctive" landscapes include those with unusual topography or vegetation, or unique or aesthetically pleasing design or landscaping elements in the case of urban landscapes. "Common" landscapes have elements, whether natural or urban, that are prevalent and relatively uniform in the analysis area. "Minimal" landscapes include extensive areas of very repetitive or uninteresting elements, as well as areas highly disturbed by development activities.

The sensitivity of potential viewer areas may range from low to high, depending on the nature and expectations of users and the duration of use of the area. Areas of high sensitivity would include recreation sites and scenic routes. Areas of moderate sensitivity would include residential areas of common character but involving long exposure times. Areas of low sensitivity would include high-volume and/or high-speed travel corridors through urbanized areas.

A recent change to the Environmental Checklist in CEQA Guidelines Appendix G emphasizes aesthetic and visual resource impacts on public views in non-urbanized areas. As defined in Appendix G, "public views" are views that are experienced from publicly accessible vantage points. Although not specifically defined, "publicly accessible vantage points" are assumed to include, though not necessarily limited to, public roads, parks, trails, and vista turnouts. For this project, publicly accessible vantage points would include Main Street and the Livingston High School playing fields.

Aesthetic/Visual Resources on Project Site and in Vicinity

The project site is in a developing area near the southern Livingston city limits, but one that still has extensive areas of vacant and agricultural land. The project site itself is undeveloped, a portion containing bare, sandy soil with patches of grasses and weeds. However, the larger eastern portion of the site is currently in row crop production. The most significant on-site visual feature is the MID Arena Canal, which traverses the western portion of the site. Utility poles are located along the south boundary of the project site; a dirt farm road provides access to a small structure built around an existing wellhouse. The two arms of project site enclose an existing single-family residence immediately east of Main Street.

Views south and east of the project site are primarily of adjacent agricultural lands. Southern views are limited partially by large agricultural storage structures that extend 20-25 feet in height above the relatively flat landscape. Views to the north include facilities of the Livingston High School playing fields. Views to the west are primarily of existing residential development, including the Orchards on Newcastle, an apartment complex with two-story structures, at the intersection of Main Street and Newcastle Drive. Neighborhoods of single-family residences are located farther west. Utility poles line the western side of Main Street from Peach Avenue to the apartment complex.

Existing lighting in the project vicinity consists of parking lot and sports field lighting from the adjacent Livingston High School playing fields to the north, street lighting along Main Street and other urban street segments and existing residential development across Main Street to the west. Other existing lighting consists mainly of security lighting in nearby residential, commercial, and school development. Streetlights have been installed along Newcastle Drive west of the project site.

REGULATORY FRAMEWORK

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 *et seq*. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The State Scenic Highway System list, maintained by the California Department of Transportation (Caltrans), includes highways that are either designated as scenic highways or are eligible for such designation. There are only two officially designated State Scenic Highways within Merced County: Interstate 5 from the Stanislaus County line to State Route (SR) 152 (14.9 miles), and SR 152 from Interstate 5 to the Santa Clara

County line (13.8 miles). Both are in western Merced County (Caltrans 2018). Neither the City nor Merced County have designated any scenic highways.

City of Livingston Municipal Code

As required by Livingston Municipal Code Section 5-6-7, an application for Site Plan and Design Review is required for all new development within the R-2 and R-3 Zone Districts. The purpose of this review is to assure compatibility, harmony in appearance in neighborhoods, reduction of negative impacts of non-aesthetic development, and orderly development of the community. The Planning Commission is the recommending body, with the City Council as the approving body, for the Site Plan and Design Review process.

City of Livingston Design Guide

The City has adopted the Design Guide for Development. The Design Guide is intended to address the physical design of development for residential uses, including site planning, architecture, use of open spaces, lot configurations, circulation, and similar issues. The Design Guide serves as a reference for use by City staff, the Planning Commission, the City Council, and the development community during the design review process. The Design Guide contains guidelines for both single-family and multifamily residential development.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on aesthetics and visual resources if it would:

- Have a substantial adverse effect on a scenic vista,
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway),
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings; or, if the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality, or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

A recent revision to the aesthetics questions in Appendix G notes California Public Resources Code Section 21099, which states that the aesthetic and parking impacts of residential, mixed-use residential, or employment center projects on an infill site within a

transit priority area shall not be considered significant effects under CEQA. While the project is residential, it is not considered an infill project in a transit priority area. Therefore, Public Resources Code Section 21099 does not apply to this project, and the project is not exempt from an analysis of its aesthetic impacts.

Impact AES-1: Scenic Vistas

The Merced County General Plan notes that scenic vistas in the County, where available, include views of the Coast Ranges to the west, the Sierra Nevada to the east, and the corridors of the Merced River, San Joaquin River, Los Banos Creek, and Bear Creek (Merced County 2013a). The distance mountain ranges are at times be visible from portions of the project site depending on weather conditions; the other vistas are not visible as they are distant and obscured by existing development, local topography, and vegetation.

The project involves the construction of a high-density residential development, a community center/office, and related site improvements. These structures have the potential to partially obstruct distant views available from other locations in the vicinity. However, the areas where distant views are of most concern are the residential areas. The proposed development would be out of the line of site between the existing residences west of the project site and the mountain views. Residences north of the project site beyond Peach Avenue are too far way to have their mountain views to the west substantially affected by project development. Project impacts on scenic vistas would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AES-2: Scenic Resources

The project site is an agricultural parcel currently in row crop use and containing scenic resources of significance, such as mature native trees, rock outcroppings, or historic buildings. The project site is not near the stream corridors designated by the County General Plan as scenic areas. Designated State Scenic Highways are in western Merced County, and there are no locally designated scenic highways in the area. Consequently, development of the project would have no adverse impact on existing scenic resources.

Level of Significance: No impact

Mitigation Measures: None required

Impact AES-3: Visual Character and Quality

Proposed residential structures would be consistent in height and design with other higher-density residential land uses in the vicinity. As noted, the project site is an agricultural parcel currently devoted to row crops. The project, with its proposed design

and landscaping, would be considered a change in on-site aesthetics, but one that represents continuing development of the City of Livingston, consistent with the existing General Plan designation and zoning. The project would not involve any adverse aesthetic impact as viewed from adjacent Main Street or the Livingston High School playing fields, which are the main public viewing areas in the vicinity.

The proposed project would be subject to Site Plan and Design Review by the City, which is intended to promote harmony in appearance in neighborhoods and to reduce negative impacts of non-aesthetic development. The project also would be required to comply with applicable landscaping standards specified in the City's Zoning Ordinance. As a result, project impacts on visual quality would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AES-4: Light and Glare

The project would add lighting to a site that is currently unlit. The project site is already illuminated by existing lighting from the Livingston High School playing fields parking lot to the north and by security lighting of surrounding structures. Proposed lighting would be similar to lighting in other residential development in the area. However, project lighting would result in an increase in indirect illumination of nearby land uses. Many of these land uses, such as the Livingston High School playing fields and the Yagi Brothers business, would not be sensitive to changes in lighting levels. However, residential development to the west could be sensitive to an increase in indirect illumination.

The project would implement a Lighting Plan that would be consistent with California's 2016 Building Energy Efficiency Standards, Title 24, Part 6, which includes lighting controls such as the use of light-emitting diode fixtures, time switches, and motion sensors for all exterior lighting. Pole-mounted light fixtures would be appropriately angled to minimize light exposure.

The City's Site Plan and Design Review requires a project to identify potentially reflective exterior building materials and their location in relation to motorists and other persons within sight of the project. Also, site plans must identify any exterior light sources and areas subject to potential off-site illumination areas. Potential off-site lighting impacts would be considered during City review, the result of which would be additional lighting measures that would reduce indirect illumination of adjacent properties, if necessary. The Conditional Use Permit would also likely have lighting requirements as part of its conditions of approval. Project impacts on light and glare would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

5.0. AIR QUALITY

This chapter analyzes impacts on air quality, specifically as they relate to pollutants regulated by federal and California Clean Air Acts. Greenhouse gases (GHGs), gases that trap heat generated by the sun, are regulated separately from other air pollutants. Chapter 9.0, Greenhouse Gas Emissions, discusses the potential environmental impacts of the project as they relate to GHG emissions.

ENVIRONMENTAL SETTING

The project site is within the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD), which includes Merced County, has jurisdiction over most air quality matters in the Air Basin. The SJVAPCD is tasked with implementing programs and regulations required by both the federal and California Clean Air Acts. Under their respective Clean Air Acts, both the State of California and the federal government have established ambient air quality standards for six criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. California has standards for four additional criteria pollutants under its Clean Air Act.

Air Pollutants

Pollutants of concern at the project site include the following:

- Ozone. Ozone is not directly produced by automobile fuel combustion; rather, it is a secondary pollutant that is formed from reactive organic gases (ROG) and nitrogen oxides (NO_x) in the presence of sunlight. Automobile emissions represent the principal source of these pollutants. Ozone causes eye irritation and respiratory function impairment. It also damages natural ecosystems, agricultural crops, and manmade materials such as rubber and plastics. To control ozone pollution, it is necessary to control emissions of ROG and NO_x.

- Particulate Matter and Fine Particulate Matter (PM_{10} and $PM_{2.5}$). Particulates include any solid matter suspended in air. Standards are applied to particulates less than 10 micrometers in diameter (PM_{10}), because these particles (when inhaled) are not filtered out prior to reaching the lungs, where they can aggravate respiratory diseases. Particulates originate from automobile traffic, urban construction, grading, farm tilling, and other activities that expose soil and dust. Dry summer conditions and daily winds can increase particulate concentrations.

  Separate standards have been established for particulate matter that is 2.5 micrometers or less in size ($PM_{2.5}$), sometimes referred to as "fine particulate matter." The $PM_{2.5}$ standards reflect additional health concerns related to

respiration of these smaller particles, which may be drawn deeper into the lungs. Fine particulates include sulfates, nitrates, organics, ammonium, and lead compounds originating from activities in urban areas.

- Carbon Monoxide (CO). The primary source of CO emissions in the project vicinity is from the combustion of petroleum fuel, particularly from automobiles. Because of its ability to readily combine with hemoglobin and displace oxygen in the human body, high levels of CO can produce hazardous conditions, especially for elderly people or individuals with respiratory ailments, including fatigue, headache, confusion, and dizziness.

In 2019, approximately 1,017 tons of ROG and 218 tons of NO_x were emitted each day from sources in the San Joaquin Valley Air Basin. Approximately 316 tons of PM_{10}, of which approximately 103 tons were $PM_{2.5}$, were emitted daily. Areawide sources account for most of the ROG emissions; major sources include farming operations, solvent evaporation, cleaning and surface coatings, and waste disposal. Major sources of PM_{10} emissions are also areawide; these include farming operations, road and fugitive windblown dust, and wildfires. Most of the NO_x emissions were caused primarily by mobile sources; i.e., motor vehicles. Wildfires were a major source of CO emissions in 2019, along with mobile sources (ARB 2020a).

Toxic Air Contaminants

Toxic air contaminants (TACs) are of particular concern. TACs are non-criteria pollutants that cause or may cause cancer or other serious health effects such as birth defects, neurological disorders, or chronic eye, lung, or skin irritation, along with adverse environmental and ecological effects. The State's Air Toxics Inventory includes more than 250 substances considered TACs (ARB 2008a). Most of these TACs are emitted by industrial processes and thus are confined to industrial facilities.

Diesel particulate matter (diesel PM) is designated by the State of California as a TAC. Diesel PM, a potential source of both cancer and non-cancer health effects, is of concern because it is present at some concentration in all developed areas of the state. The California Air Resources Board (ARB) has identified diesel PM as a major contributor to ambient cancer risk levels; while diesel PM accounts for only about 4% of air toxic emissions in the state, it accounted for more than 70% of the 2000 cancer risk associated with outdoor ambient levels of all TACs. General risks can be elevated with proximity to the source, which for diesel PM includes freeways, ports and railyards, and distribution centers (ARB 2005), as well as other locations of concentrated diesel engine use.

Federal Clean Air Act

Federal air quality regulation stems from the federal Clean Air Act. The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to establish air quality standards for criteria pollutants, which are known as the National Ambient Air Quality Standards. As shown in Table 5-1, the Clean Air Act establishes six criteria pollutants: ozone, carbon monoxide, particulate matter, nitrogen dioxide, sulfur dioxide and lead. The adopted primary standards are designed to protect human health, based on EPA medical research and specific concentration thresholds derived therefrom. Secondary standards are intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage.

TABLE 5-1
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Air Pollutant	Averaging Time	California Standards	Primary National Standards[1]	Secondary National Standards[2]
Ozone	1 Hour	0.090 ppm	--	--
	8 Hour	0.070 ppm	0.070 ppm	0.070 ppm
PM_{10}	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	150 $\mu g/m^3$
	Annual Mean	20 $\mu g/m^3$	--	--
$PM_{2.5}$	24 Hour	--	35 $\mu g/m^3$	35 $\mu g/m^3$
	Annual Mean	12 $\mu g/m^3$	12 $\mu g/m^3$	15 $\mu g/m^3$
Carbon Monoxide	1 Hour	20 ppm	35 ppm	--
	8 Hour	9 ppm	9 ppm	--
Nitrogen Dioxide	1 Hour	0.18 ppm	100 ppb	--
	Annual Mean	0.030 ppm	0.053 ppm	0.053 ppm
Sulfur Dioxide	1 Hour	0.25 ppm	75 ppb	--
	3 Hour	--	--	0.5 ppm
	24 Hour	0.04 ppm	0.14 ppm*	--
	Annual Mean	--	0.030 ppm*	--
Lead	30 Day Avg.	1.5 $\mu g/m^3$	--	--
	Calendar Qtr.	--	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
	3 Month Average	--	0.15 $\mu g/m^3$	0.15 $\mu g/m^3$
Sulfates	24 Hour	25 $\mu g/m^3$	N/A	N/A
Hydrogen Sulfide	1 Hour	0.03 ppm	N/A	N/A
Vinyl Chloride	24 Hour	0.01 ppm	N/A	N/A
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer.	N/A	N/A

Notes: ppm – parts per million; ppb – parts per billion; µg/m^3– micrograms per cubic meter; N/A – not applicable
[1] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
* For certain areas.
Source: ARB 2016.

Regions of the country are classified with respect to their attainment or nonattainment of these standards. The Clean Air Act requires the states to submit a State Implementation Plan for nonattainment areas. The State Implementation Plans are reviewed and approved by the EPA, subject to a determination of their adequacy in demonstrating how the federal standards will be achieved. Table 5-2 shows the corresponding attainment/nonattainment designations for the Air Basin.

TABLE 5-2
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

	Designation/Classification	
Pollutant	**Federal Primary Standards**	**State Standards**
Ozone - One hour	No Federal Standard[a]	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme[b]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

[a] Effective June 15, 2005, EPA revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the Air Basin as Extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan in 2010. Many applicable requirements for Extreme 1-hour ozone nonattainment areas continue to apply to the Air Basin.

b Though the Valley was initially classified as Serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to Extreme nonattainment in the Federal Register in 2010.

[c] In 2008, the U.S. Environmental Protection Agency (EPA) redesignated the San Joaquin Valley to attainment for the PM_{10} National Ambient Air Quality Standard (NAAQS) and approved the PM_{10} Maintenance Plan.

[d] The Valley is designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS in 2009.

Source: SJVAPCD 2020.

State Laws

California Clean Air Act

The California Clean Air Act provides the planning framework for California air quality. It establishes the State's own set of ambient air quality standards for criteria pollutants, known as the California Ambient Air Quality Standards (see Table 5-1). The state standards are generally more stringent than the corresponding federal standards; in addition, the state standards cover four other pollutants besides the six criteria pollutants of the federal Clean Air Act. Responsibility for implementation of the California Clean Air Act requirements, and for preparation of the State Implementation Plan under the Clean Air Act, rests with the ARB; the local air pollution or air quality management districts are responsible for preparation of the Air Quality Attainment Plan, which are input to the State Implementation Plan.

Areas where these standards are exceeded are considered "nonattainment" areas and are subject to more intensive air quality management and more stringent regulation. Table 5-2 shows the attainment status of the Air Basin for state ambient air quality standards. The Air Basin is designated Nonattainment/Extreme by the federal government, and Nonattainment/Severe by the state, for ozone. Both the state and federal governments classify the basin as Nonattainment for fine particulate matter ($PM_{2.5}$). The state also classifies the basin as Nonattainment for particulate matter (PM_{10}). Except for the Fresno urbanized area, the Air Basin is in attainment of, or unclassified for, carbon monoxide and other applicable standards. The California Clean Air Act requires areas that are designated nonattainment to achieve a 5% annual reduction in emissions until the standards are met.

Toxic Air Contaminants

The State regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). Under these programs, the State is responsible for an inventory of TACs, for analysis of exposure and risk and for planning to reduce risk. Like other federal and state air quality requirements, the various elements of the state air toxics program are implemented by the local air districts.

San Joaquin Valley Air Pollution Control District

Projects within the Air Basin are subject to the regulatory authority of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which implements and enforces air quality regulations in eight counties, from San Joaquin County in the north to western Kern County in the south. The SJVAPCD's responsibilities include air quality standard attainment planning, regulation of emissions from non-transportation sources, and mitigation of emissions from on-road sources.

Air Quality Plans

Air quality plans adopted by the SJVAPCD to meet Clean Air Act standards are described below. All the plans include measures that would be implemented through rule making or program funding to reduce air pollutant emissions in the Air Basin. Transportation control measures are part of these plans.

1-Hour Ozone Plan

Although the EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the EPA published in the Federal Register a final action determining that the Air Basin has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period, allowing nonattainment penalties to be lifted under federal Clean Air Act Section 179b.

8-Hour Ozone Plan

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This plan projects that the Air Basin will achieve the EPA's 1997 8-hour ozone standard no later than 2023. The ARB approved the plan on June 14, 2007. The EPA approved the 2007 Ozone Plan effective April 30, 2012. The SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.

PM_{10} Plan

Based on PM_{10} measurements from 2003 to 2006, the EPA found that the Air Basin has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's governing board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the Air Basin will continue to meet the PM_{10} standard. The EPA approved the document and on September 25, 2008, the Air Basin was redesignated to attainment/maintenance.

$PM_{2.5}$ Plan

The SJVAPCD adopted the 2012 $PM_{2.5}$ Plan on December 20, 2012 and was approved by ARB on January 24, 2013. This plan will assure that the Air Basin will attain the 2006 $PM_{2.5}$ National Ambient Air Quality Standard. The plan uses control measures to reduce NO_x, which also leads to fine particulate formation in the atmosphere. It also incorporates measures to reduce direct emissions of $PM_{2.5}$, including a strengthening of regulations for various Air Basin industries and the general public through new rules and amendments. The plan estimates that the Air Basin will reach the $PM_{2.5}$ standard by 2019. In addition, SJVAPCD adopted the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard on April 16, 2015 to achieve attainment of the EPA's 1997 annual and 24-hour $PM_{2.5}$ standards by the end of 2020; and it also adopted the 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard on September 15, 2016, which requests a new attainment deadline of 2025.

In November 2018, SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards, which consolidates previous $PM_{2.5}$ plans into a single plan that addresses attainment of the various $PM_{2.5}$ standards. This plan integrates a comprehensive strategy that contains new stationary source measures that will be applied throughout the San Joaquin Valley and measures focused on reducing emissions in areas with the most difficult attainment challenges. These measures include new stationary source measures to further strengthen NO_x and/or $PM_{2.5}$ requirements to achieve greater emissions reductions from various activities, incentive-based measures that accelerate the deployment of cleaner vehicles and technologies in a variety of sectors, a targeted "hot-spot" strategy that focuses additional regulatory and incentive-based measures for residential wood burning and commercial charbroiling operations, and a state mobile source strategy that reduces emissions from mobile sources under state and federal jurisdiction (SJVAPCD 2018).

Rules and Regulations

SJVAPCD has adopted several regulations that are directly applicable to development like the project. These regulations are summarized below.

Regulation VIII (Fugitive Dust PM10 Prohibitions)

Rules 8011-8081 are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4101 (Visible Emissions)

This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.

Rule 4601 (Architectural Coatings)

Rule 4601 limits emissions of volatile organic compounds from architectural coatings by specifying storage, clean up and labeling requirements.

Rule 9510 (Indirect Source Review)

Rule 9510, also known as the Indirect Source Rule, is intended to reduce or mitigate emissions of NO_x and PM_{10} from new development in the SJVAPCD including construction and operational emissions. This rule requires specific percentage reductions in estimated on-site construction and operation emissions, and/or payment of off-site mitigation fees for required reductions that cannot be met on the project site. Construction emissions of NO_x and PM_{10} exhaust must be reduced by 20% and 45%, respectively. Operational emissions of NO_x and PM_{10} must be reduced by 33.3% and 50%, respectively. Rule 9510 applies to residential development projects of at least 50 units; therefore, the project would be subject to Rule 9510.

Significance Thresholds

According to the recently updated Appendix G of the CEQA Guidelines, a project may have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of an applicable air quality plan,
- 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 [Chapter 17.0, Cumulative Impacts, discusses the potential cumulative air quality impacts of the project],
- Expose sensitive receptors to substantial pollutant concentrations, or
- Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.

CEQA Guidelines Appendix G states that, where available, significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make significance determinations. In 2015, the SJVAPCD adopted a revised Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI defines methodology and thresholds of significance for the assessment of air quality impacts for projects within SJVAPCD's jurisdiction, along with mitigation measures for identified impacts. Table 5-3 below shows predicted criteria pollutant emissions associated with the project and the air quality impact significance thresholds established by SJVAPCD, as set forth in the GAMAQI.

TABLE 5-3
SJVAPCD SIGNIFICANCE THRESHOLDS AND
PROJECT AIR POLLUTANT EMISSIONS

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
SJVAPCD Significance Thresholds[1]	**10**	**10**	**100**	**27**	**15**	**15**
Construction Emissions[2]	1.78	2.87	2.74	<0.01	0.54	0.28
Above Threshold?	*No*	*No*	*No*	*No*	*No*	*No*
Operational Emissions[3]	3.24	**12.38**	14.98	0.06	3.56	1.01
Above Threshold?	*No*	*Yes*	*No*	*No*	*No*	*No*

Note: All figures are in tons per year.
[1] Applicable to both construction and operational emissions.
[2] Maximum emissions in a calendar year.
[3] Unmitigated emissions.
Sources: CalEEMod Version 2016.3.2, SJVAPCD 2015.

The SJVAPCD significance thresholds are based on offset thresholds established under the New Source Review program (SJVAPCD Rule 2201). Under New Source Review, all new permitted sources with emission increases exceeding two pounds per day for any criteria pollutant are required to implement best available control technology (BACT). Furthermore, all permitted sources emitting more than the New Source Review offset thresholds for any criteria pollutant must offset all emission increases in excess of the thresholds. The SJVAPCD's attainment plans demonstrate that project-specific emissions below the offset thresholds will have a less-than-significant impact on air quality. Thus, the SJVAPCD concludes that use of the New Source Review offset thresholds as the thresholds of significance for criteria pollutants is an appropriate and effective means of promoting consistency in significance determinations within the environmental review process, and the thresholds are applicable to both stationary and non-stationary emissions sources (SJVAPCD 2015).

The SJVAPCD's thresholds of significance for criteria pollutants are applied to evaluate regional impacts of project-specific emissions of air pollutants. Regional impacts of a project can be characterized in terms of total annual emissions of criteria pollutants and their impact on SJVAPCD's ability to reach attainment (SJVAPCD 2015).

Impact AIR-1: Consistency with Air Quality Plans and Standards

Project emissions were estimated using the CalEEMod computer program, a modeling program recommended by SJVAPCD. The CalEEMod results are shown in Appendix B of this EIR and summarized in Table 5-3 above. The estimates in Table 5-3 are "unmitigated" emissions, meaning emissions that would otherwise occur without the incorporation of project features and applicable regulations that would mitigate air quality impacts. Chapter 9.0, Greenhouse Gas Emissions, describes some of these conditions and regulations not otherwise addressed below.

As indicated in Table 5-3, the predicted construction and operational emissions of the project would not exceed the applicable SJVAPCD significance thresholds, except for predicted operational emissions of NO_x. As noted above, the SJVAPCD's attainment plans demonstrate that the project-specific emissions that are below New Source Review offset thresholds, which are the basis for the SJVAPCD significance thresholds, would have air quality impacts that are less than significant, except for NO_x operational emissions.

The project would be required under existing regulations to comply with SJVAPCD Rule 9510, which require NO_x and PM_{10} reductions from construction exhaust and operational emissions. More specifically, Rule 9510 requires a reduction in operational emissions of NO_x of 33.3%. With application of Rule 9510, unmitigated project NO_x operational emissions would be reduced to approximately 8.26 tons per year, which would be below the SJVAPCD significance threshold for NO_x. Based on this, the projected NO_x emissions of the project would be below significance thresholds and would be consistent with adopted reduction plans for ozone, along with those for particulate matter and CO. Therefore, impacts of the proposed project regarding consistency with the applicable air quality plans would be less than significant.

Dust emissions would be reduced through the required implementation of SJVAPCD Regulation VIII, enforcement of which is the responsibility of the SJVAPCD. The SJVAPCD would be notified of impending project construction as a part of the required filing of an application for coverage under Rule 9510. Conformance with SJVAPCD dust control standards will also be facilitated by the City the SJVAPCD dust control requirements would be included in the project conditions of approval. Dust control provisions are also routinely included in site improvement plans and specifications, and conformance with plans and specifications is monitored by City building inspectors. SJVAPCD Regulation VIII contains the following dust emission control measures:

- Air emissions related to the project shall be limited to 20% opacity (opaqueness, lack of transparency) or less, as defined in SJVAPCD Rule 8011. The dust control measures specified below shall be applied as required to maintain the Visible Dust Emissions standard.

- The contractor shall pre-water all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and phase earthmoving.

- The contractor shall apply water, chemical/organic stabilizer/suppressant, or vegetative ground cover to all disturbed areas, including unpaved roads, throughout the period of soil disturbance.

- The contractor shall restrict vehicular access to the disturbance area during periods of inactivity.

- The contractor shall apply water or chemical/organic stabilizers/suppressants, construct wind barriers and/or cover exposed potentially dust-generating materials.

- When materials are transported off-site, the contractor shall stabilize and cover all materials to be transported and maintain six inches of freeboard space from the top of the container.

- The contractor shall remove carryout and trackout of soil materials on a daily basis unless it extends more than 50 feet from site; carryout and trackout extending more than 50 feet from the site shall be removed immediately. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. If the project would involve more than 150 construction vehicle trips per day onto the public street, additional restrictions specified in Section 5.8 of SJVAPCD Rule 8041 would apply.

As noted, the project would be subject to Rule 9510, which requires development projects to reduce construction and operational NO_x and PM_{10} emissions by specified amounts. Chapter 9.0, Greenhouse Gas Emissions, describes conditions and regulations associated with the project that would reduce emissions. These measures and conditions would further reduce construction and operational emission impacts that are already considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AIR-2: Exposure of Sensitive Receptors to Pollutants

"Sensitive receptors" refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time also may be called sensitive receptors; these include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (SJVAPCD 2015).

The project site is adjacent to and west of the Livingston High School playing fields, and several residences are located across Main Street southwest of the site. Livingston High School is across Peach Avenue from the high school playing fields, north of the project site. As noted, project construction and operational emissions would be below SJVAPCD significance thresholds for criteria pollutants with implementation of Rule 9510. Implementation of other applicable SJVAPCD rules and regulations would further reduce emissions, making them less likely to affect these sensitive land uses.

CO in high concentrations would have adverse health impacts, as previously described. A CO "hotspot" is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. CO hotspots have the potential to expose receptors to emissions that violate state and/or federal CO standard even if the broader Basin is in attainment for federal and state levels. The GAMAQI indicates that a project would create no violations of the CO standards if neither of the following criteria are met (SJVAPCD 2015):

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity (See Chapter 15.0, Transportation, for an explanation of LOS).

As noted in Chapter 15.0, Transportation, and in Chapter 17.0, Cumulative Impacts, the intersections affected by the project are expected to maintain at least the minimum acceptable LOS of C set by the City with the implementation of identified mitigation measures. Therefore, the project would have no adverse impact related to CO emissions.

Project construction would involve emissions of diesel PM, which is classified as a TAC. Diesel PM emissions would have adverse effects only for people that experience long-term exposure, and construction emissions would cease once work is completed. No emissions of diesel PM from the project site would occur after construction work is completed, other than possibly from diesel-engine vehicles making occasional visits.

Therefore, impacts of diesel PM construction and operational emissions on nearby sensitive receptors are considered less than significant.

Overall, the pollutant emissions estimated to be generated by the project are unlikely to reach nearby sensitive receptors at levels that would have an adverse impact. The potential exposure of sensitive receptors to pollutant emissions would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AIR-3: Odors and Other Emissions

No other air emissions are associated with the project, other than potentially odors. Odors are more of a nuisance than an environmental hazard. Nevertheless, the Environmental Checklist in CEQA Guidelines Appendix G regards emission of odors as a potentially adverse significant environmental impact. In accordance with this, the GAMAQI states that a project should be evaluated to determine the likelihood that it would result in nuisance odors (SJVAPCD 2015).

Residential development does not generate substantial odors that would affect nearby land uses, nor would it generate substantial amounts of other emissions such as TACs. The project would have no impact related to odors or other emissions.

Level of Significance: No impact

Mitigation Measures: None required

6.0 BIOLOGICAL RESOURCES

Information for this section is taken primarily from a Biological Assessment of the project site that was prepared by Moore Biological Consultants. Appendix C contains a copy of the assessment, the preparation of which involved reviewing databases, aerial photographs, and documents and conducting a field survey of the site and vicinity to document vegetation communities, potential jurisdictional Waters of the U.S., and potentially suitable habitat for special-status species. The assessment was subsequently amended to address acreage added to the project site since the assessment was originally completed. The amended assessment is also available in Appendix C.

ENVIRONMENTAL SETTING

Existing Vegetation

The east and central part of the project site is a field that is farmed in hay crops and appears to have been cultivated in wheat in 2018; this field has been recently disked. There are smaller fields of upland ruderal grassland in the west part of the project site, adjacent to Main Street. Due to agricultural activities, development, and weed abatement activities, vegetation on the project site is primarily annual grass and weed species. Dominant grasses including oats, Bermuda grass, ripgut brome, and foxtail barley. Other grassland species intermixed with the dominant grasses include black mustard, telegraph weed, prickly lettuce, horseweed, filaree, and common mallow.

There are several patches of giant reeds along the south edge of the project site. The only trees on the site are two stone fruit trees along the south edge. No blue elderberry shrubs were observed on or adjacent to the project site.

Existing Wildlife

A limited variety of bird species were observed during the field survey, mostly common species found in agricultural and riparian areas of Merced County. Turkey vulture, American kestrel, American crow, northern mockingbird, western kingbird, and white-crowned sparrow are representative of the avian species observed.

Although no mammals were observed during the field survey, a limited variety of mammals common to agricultural areas likely occur on the project site. Black-tailed hare, raccoon, striped skunk, desert cottontail, and Virginia opossum are expected to occur on occasion. California ground squirrels are widespread in agricultural areas and may occur on the site, but no squirrels or their burrows were observed during the field survey. Due to lack of suitable habitat, few amphibians and reptiles are expected to use habitats on the

site, and none were observed. Common species such as western fence lizard, Pacific chorus frog, and western terrestrial garter snake may occur on the site.

Special-Status Species

Special-status species are plant or wildlife species that are in one or more of the following categories:

- Legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations.
- Designated rare, threatened, or endangered and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS).
- Considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat.
- Considered rare or endangered under the conditions of CEQA Guidelines Section 15380, such as species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society, and species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on List 3 in the California Native Plant Society Inventory.

Table 6-1 provides a summary of the listing status and habitat requirements of special-status plant and wildlife species that have been documented or for which there is potentially suitable habitat in the greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. In general, special-status plants and wildlife species were identified in a search of the California Natural Diversity Database (CNDDB). Although not found in the CNDDB search, giant garter snake, California red-legged frog, blunt-nosed leopard lizard, and Delta smelt are listed in a USFWS report and are included in Table 6-1.

Waters of the U.S. and Wetlands

Waters of the U.S. are broadly defined under 33 Code of Federal Regulations 328 to include navigable waterways, their tributaries, and adjacent wetlands. They also include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the 1987 *Wetlands Delineation Manual* of the U.S. Army Corps of Engineers (Corps) and its 2008 Regional Supplement. Jurisdictional wetlands are usually adjacent to or hydrologically associated with Waters of the U.S; isolated wetlands are outside federal jurisdiction.

TABLE 6-1
SPECIAL-STATUS SPECIES DOCUMENTED IN THE PROJECT VICINITY

Common Name ***Scientific Name***	**ESA Status[1]**	**CESA Status[2]**	**CNPS List[3]**	**Habitat**	**Potential for Occurrence**
Plants					
Alkali milk-vetch *Astragalus tener var. tener*	None	None	1B	Alkali playas, vernal pools.	None: the project site does not provide suitable habitat; there are no playas or vernal pools on the project site.
Heartscale *Atriplex cordulata var. cordulata*	None	None	1B	Valley and foothill grassland, chenopod scrub.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat.
Brittlescale *Atriplex depressa*	None	None	1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pool habitats within alkaline clay soils.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat.
Lesser saltscale *Atriplex minuscula*	None	None	1B	Chenopod scrub, playas and valley and foothill grassland; in alkaline sandy soils.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat.
Vernal pool smallscale *Atriplex persistens*	None	None	1B	Alkaline vernal pools.	Unlikely: the project site does not provide suitable habitat.
Succulent owl's clover *Castilleja campestris var. succulenta*	T	E	1B	Vernal pools.	Unlikely: there are no vernal pools on the project site.
Delta button celery *Eryngium racemosum*	None	E	1B	Riparian scrub in seasonally inundated floodplain with clay substrates.	Unlikely: the project site does not provide suitable habitat.
San Joaquin spearscale *Extriplex joaquinana*	None	None	1B	Chenopod scrub, alkali meadow, valley and foothill grassland.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat.
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	None	None	1B	Vernal pools in valley and foothill grassland habitats; usually found on alkaline soils.	Unlikely: the project site does not provide suitable habitat.
Heckard's pepper grass *Lepidum latipes var. heckardii*	None	None	1B	Valley and foothill grassland, vernal pools; usually alkaline soils.	Unlikely: the on-site grasslands are highly disturbed and there are no vernal pools on the site.

Common Name ***Scientific Name***	**ESA Status[1]**	**CESA Status[2]**	**CNPS List[3]**	**Habitat**	**Potential for Occurrence**
Merced monardella *Monardella leucocephala*	None	None	1A	Creek beds and moist sandy sub-alkaline depressions within vernal pool grassland habitats.	Unlikely: the project site does not provide suitable habitat.
Prostate vernal pool navarretia *Navarretia prostrata*	None	None	1B	Alkali meadows, playas, and vernal pools.	Unlikely: the project site does not provide suitable habitat.
Colusa grass *Neostapfia colusana*	T	E	1B	Vernal pools (large and deep)	Unlikely: there are no vernal pools on the project site.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	T	E	1B	Vernal pools.	Unlikely: there are no vernal pools or seasonal wetlands on the project site.
California alkali grass *Puccinellia simplex*	None	None	1B	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pool habitats; in alkaline, vernally mesic sinks, flats, and lake margins.	Unlikely: the project site does not provide suitable habitat.
Birds					
Swainson's hawk *Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	High: the site provides potentially suitable foraging habitat, and large trees in and near the site could be used for nesting. A pair of Swainson's hawks were observed nesting in a tree along Main Street, approximately 80 feet from the west edge of the project site.
Tricolored blackbird *Agelaius tricolor*	None	CE	N/A	Nests in dense brambles and emergent wetland vegetation associated with open water habitat.	Unlikely: there is no suitable nesting habitat in or adjacent to the site. This species may occasionally fly over or forage in the area.
Least Bell's vireo *Vireo bellii pusillus*	E	E	N/A	Nests in willow thickets and other shrubs, primarily in southern California riparian forests.	Unlikely: there is no suitable nesting habitat on or near the project site. This species is not known from the area.
Mammals					
American badger *Taxidea taxus*	None	SC	N/A	Drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Unlikely: the site does not provide suitable habitat and no dens were observed during the field surveys.

Common Name ***Scientific Name***	**ESA Status[1]**	**CESA Status[2]**	**CNPS List[3]**	**Habitat**	**Potential for Occurrence**
San Joaquin kit fox *Vulpes macrotis mutica*	E	T	N/A	Open, dry annual or perennial grasslands and scrublands with loose textured soils for denning	Unlikely: the site does not provide suitable habitat and no dens were observed during the field surveys.
Reptiles and Amphibians					
California tiger salamander *Ambystoma californiense*	T	T	N/A	Breeds in seasonal water bodies such as deep vernal pools or stock ponds. Requires small mammal burrows for summer refugia.	Unlikely: there are no suitable breeding ponds on the site and the sandy soils throughout the site are not suitable for aestivation.
Giant garter snake *Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams; adapted to drainage canals and irrigation ditches, primarily for dispersal or migration.	Unlikely: there is no suitable habitat on the site for giant garter snake and this species is not known from the area.
Blunt-nosed leopard lizard *Gambelia silus*	E	E	N/A	Sparsely vegetated alkali and desert scrub habitats in areas of low topographic relief. Requires small mammal burrows for cover.	Unlikely: the project site does not provide suitable habitat.
California red-legged frog *Rana draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of water with vegetation.	Unlikely: there is no suitable aquatic habitat on or near the project site.
Western pond turtle *Emys marmorata*	None	SC	N/A	Permanent or semi-permanent water bodies; require basking sites such as logs	Unlikely: there is no suitable aquatic habitat on the project site.
Northern California legless lizard *Anniella pulchra*	None	SC	N/A	Sandy or loose loamy soils under sparse vegetation.	Unlikely: the site provides poor quality habitat.
Coast horned lizard *Phrynosoma blainvillii*	None	SC	N/A	Coniferous forest, deciduous forest, scrub, and grassland habitats, usually in sandy soils.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat

Common Name ***Scientific Name***	**ESA Status[1]**	**CESA Status[2]**	**CNPS List[3]**	**Habitat**	**Potential for Occurrence**
Western spadefoot *Spea hammondii*	None	SC	N/A	Breeds and lays eggs in seasonal water bodies such as deep vernal pools or stock ponds.	Unlikely: there is no suitable aquatic habitat on the project site.
Fish					
Steelhead – Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	None: there is no suitable aquatic habitat on the project site.
Delta smelt *Hypomesus transpacificus*	T	T	N/A	Shallow lower Delta waterways with submersed aquatic plants and other suitable refugia.	None: there is no suitable aquatic habitat on the project site and the site is well outside the range of this species.
Hardhead *Spirinchus thaleichthys*	None	SC	N/A	Clear, deep pools with sand and gravel bottoms in tributaries to the San Joaquin River and Sacramento River.	None: there is no suitable aquatic habitat on the project site.
Invertebrates					
Vernal pool fairy shrimp *Branchinecta lynchi*	T	None	N/A	Vernal pools and seasonally inundated depressions in the Central Valley.	Unlikely: there are no vernal pools or seasonal wetlands on the project site.
Vernal pool tadpole shrimp *Lepidurus packardi*	E	None	N/A	Vernal pools and seasonally wet depressions in the Central Valley.	Unlikely: there are no vernal pools or seasonal wetlands on the project site.
Conservancy fairy shrimp *Branchinecta conservatio*	T	None	N/A	Vernal pools and seasonal wetlands.	Unlikely: there are no vernal pools or seasonal wetlands on the project site.
Longhorn fairy shrimp *Branchinecta longiantennae*	E	None	N/A	Vernal pools.	Unlikely: there are no vernal pools on the project site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs in the Central Valley and surrounding foothills.	Unlikely: no blue elderberry shrubs were observed on the project site.

Notes: ESA – federal Endangered Species Act; CESA – California Endangered Species Act; CNPS – California Native Plant Society.
[1] ESA: T = Threatened; E = Endangered.
[2] CESA: T = Threatened; E = Endangered; CE = Candidate for Endangered Status; SC = Species of Special Concern.
[3] CNPS: 1A = presumed extirpated in California and rare or extinct elsewhere; 1B = rare, threatened, or endangered in California and elsewhere.
Source: Moore Biological Consultants 2020.

Federal and state agencies regulate these waters. Section 404 of the Clean Water Act requires that a permit, issued by the Corps, be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. The California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB) are state agencies with jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features. In April 2019, the State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State.* When the program is implemented, the Central Valley RWQCB is expected to require issuance of Waste Discharge Requirements to authorize the filling of isolated wetlands not subject to Section 404 permitting, or in some cases to grant a waiver.

Despite being constructed and cement-lined, the Arena Canal appears to meet the technical and regulatory criteria of jurisdictional Waters to the U.S. The channel is depicted as a "riverine" feature on the National Wetlands Inventory map of the USFWS and as a "blue-line" stream on the U.S. Geological Survey topographic map. No vernal pools, seasonal wetlands, marshes, ponds, creeks, lakes, or any other potentially jurisdictional Water of the U.S. or wetland was observed on the project site.

REGULATORY FRAMEWORK

Federal Endangered Species Act

Under the federal ESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered. ESA prohibits the "take" of endangered or threatened fish and wildlife species on private property, and from the "take" of endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a project would result in take of a federally listed species, either an incidental take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA, is required prior to the take occurring.

California Endangered Species Act

Pursuant to CESA and Section 2081 of the California Fish and Game Code, a permit from the CDFW is required for projects that could result in the take of a state-listed threatened or endangered species (i.e., species listed under CESA). Under CESA, the definition of "take" is understood to apply to an activity that would directly or indirectly kill an individual of a species, but the state definition does not include "harm" or "harass," as the federal definition does. As a result, the threshold for take under CESA is typically higher than that under ESA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the former Soviet Union. It prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter any migratory birds or their eggs, parts, or nests, except in accordance with regulations prescribed by the Secretary of the Interior.

California Fish and Game Code

The California Fish and Game Code provides protection from take for a variety of species. Certain species are considered "fully protected," meaning that the code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, and birds of prey under Section 3503.5. More specifically, Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (falcons, hawks, and eagles) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Migratory nongame birds are protected under Section 3800 and other specified birds under Section 3505.

City of Livingston Municipal Code

Livingston Municipal Code Section 5-4-8 seeks to protect and preserve mature trees on private property. A permit shall be required for the removal of any mature tree measuring at least six inches in diameter, as measured four feet above grade at the base of the tree. The City requires a five to one (5:1) replacement ratio for removal of any protected tree, although the City has discretion to reduce this ratio if trees larger than the minimum required 24-inch box size are used as replacements. Any tree that may create unsafe conditions by excessive dropping of leaves, bark, fruit, or seeds shall not be allowed as a replacement tree.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on biological resources if it would:

- 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 CDFW or USFWS,
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS,
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means,
- 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.
- Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact BIO-1: Special-Status Species and Habitats

The special-status plants identified in the greater project vicinity generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, seasonal wetlands, riparian scrub, and areas with unusual soils. The disked field and grasslands on the project site are highly disturbed and do not provide suitable habitat for any special-status plants. The biological assessment concluded that, due to lack of suitable habitat, no special-status plant species are expected to occur on the project site.

The biological assessment also stated that the potential for intensive use of habitats within the project site by special-status wildlife species is very low. Of the special-status wildlife species identified in the greater project vicinity, only one species occurs near the project site. Swainson's hawk is a migratory hawk listed as a threatened species under CESA. Swainson's hawk are found in the Central Valley primarily during their breeding season; a population is known to winter in the San Joaquin Valley. Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. The Migratory Bird Treaty Act and California Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15).

While the project site is within the nesting range of Swainson's hawks, this species is not widespread in this part of the San Joaquin Valley. The CNDDB contains only a few records of nesting Swainson's hawks in the greater project vicinity. However, during a field survey conducted in April 2020, a pair of Swainson's hawks was observed nesting at the top of a large cedar tree along Main Street approximately 80 feet west of the

western boundary of the project site. Other large trees in and near the site could also be used by Swainson's hawks for nesting, and the open fields on and near the project site provide suitable foraging habitat. Development of the project would lead to a loss of some Swainson's hawk foraging habitat in the area, and project construction could potentially disrupt nesting activities. This is considered a potentially significant impact.

The biological assessment recommended measures to reduce project impacts on Swainson's hawk. These measures, incorporated in the mitigation described below, would require a survey for nesting Swainson's hawks prior to construction and action to protect active nests if any are found, including possible restrictions on construction as determined by a qualified biologist. Additionally, the biological assessment recommends mitigation for loss of foraging habitat by contributions to a habitat mitigation bank. Two mitigation banks with mitigation credit costs ranging from $6,000.00 to $10,000.00 per acre were identified in Attachment D of the biological assessment. Implementation of these mitigation measures would reduce project impacts on Swainson's hawk to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

BIO-1: If project construction commences between March 1 and September 15, a pre-construction survey for nesting Swainson's hawks shall be conducted within 0.25 miles of the project site. If active nests are found, a qualified biologist shall determine the need (if any) for temporal restrictions on construction. Any restrictions shall be implemented by the developer as specified by the biologist. The determination for restrictions shall utilize criteria set forth by the California Department of Fish and Wildlife in its "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California" (1994).

BIO-2: The project applicant shall compensate for the loss of Swainson's hawk foraging habitat that will result from the project prior to project completion. In accordance with the "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California" (1994), compensation shall occur at a ratio of 1:1. Compensation may be provided by contributions to nearby habitat mitigation banks, such as the Great Valley and Deadman Creek banks in Merced County.

Significance After Mitigation: Less than significant, potentially significant and unavoidable. CEQA Guidelines Section 15126.4 requires an EIR to describe feasible measures that could minimize significant adverse impacts.

"Feasible" is defined in CEQA Guidelines Section 15364 as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

The project applicant has reviewed the mitigation measures described above and concluded that the measures would be economically infeasible to implement. Therefore, from an economic perspective, project impacts on Swainson's hawk cannot be feasibly mitigated.

Estimates on the cost of purchasing credits at a mitigation bank, as proposed under Mitigation Measure BIO-2, were initially identified as ranging from $9,000-12,000/acre. More detailed discussion with the two mitigation banks that provide Swainson's hawk mitigation credits - the Deadman Creek and Great Valley banks indicated that both have Swainson's hawk acreage available, and that the cost per acre would be $6,000/acre for one and $10,000 for the other. At the lower number, mitigation costs would be reduced substantially, to approximately $105,600.00 or less for the entire 17.6-acre site.

. The issue of the feasibility of the proposed mitigation for Swainson's hawk impacts will be subject to further discussion between the City and the project applicant. If these measures are subsequently determined to be economically feasible, then they will be implemented as part of the project.

Impact BIO-2: Riparian and Other Sensitive Habitats

While the Arena Canal traverses the project site, the biological assessment did not identify any riparian vegetation along the canal or on any other part of the site. Other sensitive habitats that may be found in the San Joaquin Valley include vernal pools, oak woodlands, and native grasslands. None of these habitats were identified on the project site. The project would have no impact on riparian or other sensitive habitats.

Level of Significance: No impact

Mitigation Measures: None required

Impact BIO-3: Waters of the U.S. and Wetlands

As noted, the Arena Canal is the only feature identified as a potentially jurisdictional Water of the U.S. or wetland in the site. Relocation of this lateral or conversion of this open lateral to a pipe to accommodate the project would be exempt from Section 404 permit requirements, pursuant to the Corps' Regulatory Guidance Letter 07-02. No other Waters of the U.S. or wetlands, protected either by State or federal regulations, were identified on the project site. Project impacts on Waters of the U.S. and wetlands would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact BIO-4: Fish and Wildlife Migration

There are no streams either on or adjacent to the project site, so no fish movements would be affected by the project. There are no potential nest trees on the project site that are suitable for nesting raptors and other protected migratory birds; however, there are some large trees nearby. Due to the presence of large trees near the site and suitable raptor foraging habitat (i.e., open fields) on and near the site, it is possible one or more pairs of raptors nest in trees near the site in some years. As noted, a Swainson's hawk nest was observed near the project site.

Smaller birds, such as songbirds, could potentially nest within the small trees and grasslands in the site. Some of these birds may be migratory birds protected by the Migratory Bird Treaty Act. Development of the project could lead to a loss of nesting and foraging habitat of these protected migratory birds and could potentially disrupt their nesting activities. This is a potentially significant impact.

Mitigation described below would require a survey for nesting birds prior to construction and a delay in construction to protect active nests if any are found. Implementation of this mitigation measure would reduce project impacts on protected migratory birds to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

BIO-3: If project construction or vegetation removal commences during the general nesting season (March 1 through July 31), a pre-construction survey on the project site for all species of nesting birds shall be conducted. If active nests are found, work in the vicinity of the nests shall be delayed until the young have fledged.

Significance After Mitigation: Less than significant

Impact BIO-5: Local Biological Resource Policies and Ordinances

Livingston Municipal Code Section 5-4-8 seeks to protect and preserve mature trees on private property. A permit shall be required for the removal of any mature tree measuring at least six inches in diameter, as measured four feet above grade at the base of the tree. The City requires a five to one (5:1) replacement ratio for removal of any protected tree, although the City has discretion to reduce this ratio if trees larger than the minimum required 24-inch box size are used as replacements. Any tree that may create unsafe conditions by excessive dropping of leaves, bark, fruit, or seeds shall not be allowed as a replacement tree.

The biological assessment identified only two stonefruit trees on the project site. It is expected that the project would be required to comply with Livingston Municipal Code Section 5-4-8 if these trees meet the definition of a mature tree. The City has no other

ordinances applicable to biological resources. Project impacts on local biological requirements would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact BIO-6: Habitat Conservation Plans

Habitat Conservation Plans are plans prepared under Section 10 of the ESA that allow activities that could result in an "incidental take" of listed species to occur. Such plans are required to have measures to mitigate impacts on listed species and to monitor the effectiveness of the mitigation. Natural Community Conservation Plans are California counterparts to Habitat Conservation Plans but are broader in their geographical range and conservation objectives, which include protection of ecosystems rather than specific species.

There are no Habitat Conservation Plans, Natural Community Conservation Plans, or similar conservation plans that apply to the project site. The project would have no impact on Habitat Conservation Plans or similar plans.

Level of Significance: No impact

Mitigation Measures: None required

7.0 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Most of the information for this section was provided by the Livingston General Plan EIR. The EIR was certified in 1999; cultural resource information in the EIR remains valid. Additional information was provided by a California Historical Resources Information System records search conducted by the Central California Information Center at California State University Stanislaus. The report describing the results of this search is available in Appendix D of this EIR.

ENVIRONMENTAL SETTING

Prehistoric Setting

The City of Livingston lies within the historic territory of the Yokuts, which ranged from the Tehachapi Mountains to modern-day Stockton in the San Joaquin Valley. Settlements were oriented toward water resources, with major villages situated near waterways that provided reliable water supplies and substantial food sources. A typical Yokuts village was reported to have 200 to 300 people. Economic subsistence was based on acorns, along with gathering and processing of wild seeds and other vegetable foods. Rivers and streams provided fish, shellfish, and turtles, and game, wildfowl and small mammals were trapped to augment the diet. Trade with other tribes was well developed, as the Yokuts obtained resources not otherwise available in their territory, such as obsidian and shell beads. Diseases introduced by Europeans took their toll on the Yokuts and other tribes, as up to three-quarters of the population in the San Joaquin Valley died from malaria alone.

Several archaeological surveys have been conducted in the Livingston area prior to and during the preparation of the General Plan EIR. All survey efforts have yielded negative results. The General Plan EIR concluded that the Livingston area was probably never a prehistoric population center, and minor cultural resource sites that probably existed in the area at one time have been largely destroyed by extensive agricultural operations. The records search conducted by the Central California Information Center found no documented prehistoric resources on or within one-eighth mile of the project site.

Historic Setting

Livingston was originally named Cressey, after a major landowner in the area on whose property a railroad station was established by the Santa Fe Railroad. Renamed Livingston, reportedly in honor of the explorer Dr. David Livingstone, the first known plat of the town dates from 1872. William Little, who owned about 2,500 acres of land,

platted the area surrounding the Cressey station into city blocks and offered to sell them at a fairly low rate on the condition that the town was chosen as the County seat. However, the town lost the bid to Merced that year. The land was later purchased by a man named Cyrus Bliven in 1883, and soon after, land speculators began to sell platted land to families. Livingston was able to achieve a period of steady growth after the implementation of irrigation systems in 1908, which allowed the agricultural industry to flourish (City of Livingston 2020). The City of Livingston was incorporated in 1922.

Since City incorporation, agriculture has been the main industry and source of jobs for Livingston residents. One of the first major companies to be established in Livingston was Foster Farms. The poultry company was started in 1939 by Max and Verda Foster, initially as a turkey-selling business from their home in Modesto. In 1959, as business grew, the couple purchased a processing plant in Livingston and moved their headquarters there. The company has been operating in the City ever since and is the largest employer of Livingston residents. E & J Gallo Wineries is another large employer in the area. It was established in Modesto in 1933 and is the largest exporter of California wines.

The Yamato Colony, a Japanese agricultural community, was established in Livingston in 1904 by Kyutaro Abiko, a Japanese-born American businessman and newspaper editor. The colony struggled for the first decade until the formation of the Livingston Cooperative Society, which helped the colony prosper. Most of the area that once formed this colony is now part of the City, and the Yamato Colony Elementary School commemorates this part of Livingston's history (City of Livingston 2020).

Until 1996, SR 99 ran through the City. A traffic signal installed in the downtown area was the only traffic signal on SR 99 between Sacramento and the junction with Interstate 5 south of Bakersfield, which inspired the City's nickname "The Last Stop." In 1996, the SR 99 bypass around Livingston was completed, routing through traffic away from downtown Livingston (Fimrite 1996).

The Livingston General Plan EIR evaluated the potential for significant historical resources in Livingston. Previous studies had identified only two potential historical resources: the Livingston Canal in the northern part of the City and the Arena Canal passing through the project site. Both canals were considered ineligible for inclusion in the National Register of Historic Places and therefore are not historically significant (City of Livingston 1999b). The Central California Information Center records search found no documented historic resources on or within one-eighth mile of the project site.

REGULATORY FRAMEWORK

CEQA Guidelines Section 15064.5

Criteria specified in CEQA Guidelines Section 15064.5 suggest that an "important historical or archaeological resource" is one which generally meets the criteria for listing on the CRHR, including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in California's past;
- 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 value; or
- 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 California Register of Historical Resources, or is not included in a local register of historical resources or identified in a historical resources survey, does not preclude a lead agency from determining that a resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1 (CEQA Guidelines Section 15064.5).

AB 52

In 2014, the State Legislature enacted Assembly Bill (AB) 52, which focuses on CEQA consultation with Native American tribes on projects that could potentially affect resources of value to the tribes. The intent of this consultation is to avoid or mitigate potential impacts on "tribal cultural resources," which are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources, or
- Included in a local register of historical resources as defined in subdivision (k) of public Resources Code Section 5020.1.

The tribal cultural resource must be a tangible resource for CEQA purposes, but the meaning or value attributed to that resource may be intangible. Only tribes that request to be on a lead agency's notice list shall be consulted on a project. The project must be within the geographic area that is traditionally and culturally affiliated with the tribes.

Under AB 52, consultation with tribes on a notice list shall be initiated prior to the release of the CEQA document for public review. When a tribe requests consultation with a CEQA lead agency on projects within its traditionally and culturally affiliated geographical area, the lead agency must provide the tribe with notice of a proposed project within 14 days of a project application being deemed complete, or when the lead agency decides to undertake the project if it is the agency's own project. The tribe has up to 30 days to respond to the notice, in writing. In the response, the tribe must designate a lead contact person for the consultation if it is requested. If the tribe requests consultation, then the lead agency has up to 30 days to initiate formal consultation.

Matters which may be subjects of AB 52 consultation include the type of CEQA environmental review necessary, the significance of tribal cultural resources, and project alternatives or appropriate measures for preservation or mitigation of the tribal cultural resource that the tribe may recommend to the lead agency. The consultation process ends either (1) when the parties agree to mitigate or avoid a significant effect on a tribal cultural resource, or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. Regardless of whether the parties agree or not on mitigation measures, AB 52 explicitly notes that a lead agency is still obligated under CEQA to mitigate for any significant environmental effects on tribal cultural resources.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to the recently updated Appendix G of the CEQA Guidelines, a project may have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5,
- Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5, or
- Disturb any human remains, including those interred outside of formal cemeteries.

Also, according to Appendix G, a project may have a significant impact on the environment if it would cause a substantial adverse change in the significance of a tribal cultural resource, defined in California Public Resources Code Section 21074 as a site, feature, place, sacred place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, or object with cultural value to a California Native American tribe, and that is:

- 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
- 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.

Impact CULT-1: Historical Resources

There are no existing structures on the project site that might be considered historic. APN 047-280-021, a parcel surrounded by the project site, contains a single-family residence. According to County Assessor records, the single-family residence was built in 2004. The age at which buildings typically are evaluated for historical significance is 50 years or older, based on criteria set by the National Register of Historic Places. Since the single-family residence is not at least 50 years old, it does not meet the criteria and therefore is not considered a historical resource.

As noted, a records search conducted by the Central California Information Center found no documented historic resources on or within one-eighth mile of the project site. Also, as noted, the Arena Canal is historic in age but is considered ineligible for inclusion in the National Register of Historic Places. Given past disturbance of the project area by agricultural activities, it is unlikely that any historical resources would be found on the project site intact. Project impacts on historical resources are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact CULT-2: Archaeological Resources

As noted, the Central California Information Center records search found no documented prehistoric resources on or within one-eighth mile of the project site. Given the lack of archaeological resources discovered near Livingston in the past, and due to the extent of past disturbance by agricultural activities, it is unlikely that any archaeological resources would be found intact on the project site. However, it is nonetheless possible that excavation associated with the project could unearth archaeological materials of significance that are currently unknown. Procedures to address archaeological discoveries if they should occur are set forth in the mitigation measure below. Implementation of this mitigation would reduce potential impacts on inadvertently discovered archaeological resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

CULT-1: If any subsurface cultural resources are encountered during construction of the project, all construction activities within 50 feet of the encounter shall be halted until a qualified archaeologist can examine these materials, determine their significance, and if significant recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended mitigation measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston

Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

Significance After Mitigation: Less than significant

Impact CULT-3: Human Burials

As with other cultural resources, it is not expected that any human burials, particularly those of Native Americans, would be uncovered by construction on the project site, given its extensive disturbance and lack of evidence of Native American settlements in the area. However, it is conceivable that excavation associated with the project could uncover a previously unknown burial, either of Native American or other origin.

CEQA Guidelines Section 15064.5(e) describes the procedure to be followed when human remains are uncovered in a location outside a dedicated cemetery. All work in the vicinity of the find shall be halted, and the County Coroner shall be notified to determine if an investigation of the death is required. If the Coroner determines that the remains are Native American in origin, then the Coroner must contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the most likely descendants of the deceased Native American, and the most likely descendants may make recommendations on the disposition of the remains and any associated grave goods with appropriate dignity. If a most likely descendant cannot be identified, the descendant fails to make a recommendation, or the landowner rejects the recommendations of the most likely descendant, then the landowner shall rebury the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance.

Mitigation presented below would require compliance with CEQA Guidelines Section 15064.5(e). Implementation of the mitigation measure would ensure that any human remains and associated grave goods encountered during project construction would be treated with appropriate dignity. Project impacts on human remains would, with the inclusion of mitigation measures, be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety

Code Section 7050.5 and with any direction provided by the County Coroner.

If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.

Significance after Mitigation: Less than significant

Impact CULT-4: Tribal Cultural Resources

Local tribes that have been identified with the Livingston area include various Miwok and Costanoan tribes and the Northern Valley Yokuts. However, Livingston has not been identified as an area of interest by any tribe for consultation (Hatch, electronic mail, November 13, 2019). Since no tribe has requested to be consulted by the City on projects, AB 52 consultation did not occur in conjunction with this CEQA review.

As noted above, no prehistoric resources have been recorded on or near the project site. However, project construction could potentially uncover previously unknown resources, including those of Native American origin. Mitigation Measure CULT-1 would require construction work to stop at an uncovered resource site under an archaeologist can evaluate the resource and give recommendations for its disposition. Mitigation Measure CULT-2 sets forth procedures for the treatment of any Native American remains that may be uncovered during project construction. Implementation of these mitigation measures would reduce potential impacts on tribal cultural resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures: Implementation of Mitigation Measures CULT-1 and CULT-2.

Significance After Mitigation: Less than significant

8.0 GEOLOGY AND SOILS

This chapter analyzes the potential environmental impacts of the project on issues such as seismic and geological hazards and soil characteristics. It also discusses project impacts on paleontological resources and mineral resources. Impacts on soils classified as being suitable for agriculture are discussed in Chapter 12.0, Land Use and Population.

ENVIRONMENTAL SETTING

Geomorphology and General Geology

The project site lies in the San Joaquin Valley in central California. The San Joaquin Valley is the southern portion of the Great Valley Geomorphic Province, which is a topographically flat, northwest-trending, structural trough about 50 miles wide and 450 miles long. The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley.

Most of the soils in the San Joaquin Valley consist of sand, silt, loamy clay alluvium, peat, and other organic sediments. These soils are the result of long-term natural soil deposition and the decomposition of marshland vegetation. The Geologic Map of the San Francisco – San Jose Quadrangle (Wagner et al. 1991) designates the underlying geology of the project site as the Modesto Formation, consisting of Quaternary (geologically recent) sediments.

Seismic and Geological Conditions

Seismicity

There is no record of seismic activity originating in the Livingston area, and no faults have been mapped (City of Livingston 1999a). However, the Livingston General Plan EIR identifies ground shaking as a potential hazard, noting the City is located between two major fault systems – the San Andreas Fault System 59 miles to the west, and the Mother Lode Fault System 42 miles to the east (City of Livingston 1999b). Additionally, the Ortigalita Fault, an active Holocene fault, is located 29 miles west of the project site.

The Merced County General Plan background report indicates that the project site, along with the City of Livingston, could potentially experience moderate seismic damage. While there is no record of seismic activity originating in the county, there has been documented shaking from earthquake centers outside the county in 1872, 1906, 1952, 1966, 1984, and 1989. Only the 1906 quake caused major damage in the county in the

Los Banos area. Minor structural damage has occurred throughout the county on other occasions (Merced County 2013c).

Liquefaction

When coarse sediments are saturated and compact during an earthquake, soils may lose strength and become fluid, a process called liquefaction. Water from voids may be forced to the ground surface, where it emerges in the form of mud spouts or sand boils. The Livingston General Plan does not identify significant liquefaction hazards in the project area. As discussed in Chapter 11.0, Hydrology and Water Quality, groundwater levels in the Livingston area are in the range of 60-80 feet below the ground surface, and liquefaction occurs in areas with relatively shallow depths to groundwater.

Soils and Soil Conditions

Most of the soils in the San Joaquin Valley consist of sand, silt, loamy clay alluvium, peat, and other organic sediments. These soils are the result of long-term natural soil deposition and the decomposition of marshland vegetation. According to a custom soil survey by the Natural Resources Conservation Service, the soils on the project site are classified as Delhi sands. These are deep, somewhat excessively drained soils. Permeability is very rapid in this soil, which has very low water-holding capacity and produces little to no runoff. The wind erosion hazard is severe, and water erosion is evident where irrigation water has been applied too rapidly. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel and low for concrete (SCS 1962, NRCS 2020).

Paleontological Resources

Paleontological resources are fossils or groups of fossils that are unique, unusual, rare, uncommon, or important, and those that add to an existing body of knowledge in specific areas. Surface examination of a study or project area often does not reveal whether paleontological resources are present.

The geological materials underlying the project site include the sedimentary deposits of the Modesto Formation. The Modesto Formation is considered to have a relatively high sensitivity for paleontological resources. Fossil specimens recovered from one location in Merced County underlain by the Modesto Formation included larger mammals such as mammoth, giant ground sloth, dire wolf, bison, and horse, along with smaller mammals, birds, reptiles, and amphibians (Caltrans 2015). The project site does not contain any known paleontological resources or any other unique geological features.

Mineral Resources

As mandated by the Surface Mining and Reclamation Act, the California Geological Survey has evaluated the mineral resource development potential of lands, in accordance with the California Mineral Land Classification System, and has designated Mineral

Resource Zones (MRZs) based on these classifications. Local agencies are required to use this information when developing land use plans and when making land use decisions. The MRZs are:

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

The project site and vicinity were not in a MRZ that designates resources of value (California Geological Survey 1999). The City of Livingston has not identified any mineral resources on the project site. A search for mapped active oil or natural gas fields in the project vicinity found none (GeoSearch 2018a).

REGULATORY FRAMEWORK

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act, enacted in 1972 and subsequently amended, prohibits the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. Under the Act, the State Geologist is required to delineate Earthquake Fault Zones along known active faults in California. Cities and counties affected by the zones must regulate certain development projects within the zones, withholding development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting (Bryant and Hart 2007).

The project site is not located with an area mapped by the State Geologist as a "Zone of Required Investigation," including Alquist-Priolo Earthquake Fault Zones and Seismic Hazards Mapping Act zones. These zones are established where required to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-triggered ground failures (California Geological Survey 2018).

California Building Code

The California Building Code is included in Title 24 of the California Code of Regulations. It incorporates the International Building Code, a model building code adopted across the United States. The California Building Code contains building requirements that address seismic hazards that may occur in Livingston. It is updated every three years, and the current 2019 version took effect January 1, 2020. The City of Livingston recently adopted the 2019 California Building Code by ordinance.

Construction General Permit

For all projects that disturb one acre of land or more a Construction General Permit is required from the State Water Resources Control Board (SWRCB). The permit requirements include preparation of a Storm Water Pollution Prevention Plan (SWPPP) by a Qualified SWPPP Developer to address potential water quality issues. A SWPPP specifies the Best Management Practices (BMPs) needed to avoid or minimize adverse water quality impacts. Construction BMPs fall within the general categories of Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control. BMPs applicable to the project are incorporated in the SWPPP as required. BMPs are incorporated into project improvement plans and specifications, subject to the approval of the City Engineer. BMP function and effectiveness are monitored and reported, and remediation is required to address pollution occurrence.

A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of stormwater-related pollutants. Modifications to the Construction General Permit in 2010 established BMP and monitoring requirements through a "risk-based" approach; that is, construction activities would be assessed for the risk that erosion and sedimentation generated by the activity would pose to water quality in the area, based on potential rainfall likelihood and intensity and on the sensitivity of waters receiving runoff from the construction site.

City of Livingston Municipal Code

Title 4, Chapter 6 of the Livingston Municipal Code sets forth provisions for grading of construction sites such that erosion and sedimentation are controlled. These provisions regulate and control the design, construction, quality of materials, use, location and maintenance of grading, excavating and fill, land disturbances, land fill and soil storage in connection with the clearing and grading of land for construction within the City. No grading or excavation is allowed without a grading permit issued by the City. An application for a grading must include, among other requirements, an interim and final erosion and sedimentation control plan and a geotechnical/soils investigation report if the grading operation exceeds 1,000 cubic yards.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on geology and soils if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong

seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides,

- Result in substantial soil erosion or the loss of topsoil,
- Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse,
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property,
- 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,
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature,
- Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state, or
- 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.

The project would be connected to the City's sewer system and would not use, and does not propose to install, any septic tanks or alternative wastewater disposal systems. Therefore, issues related to onsite sewage disposal will not be analyzed in this EIR.

Impact GEO-1: Faulting and Seismicity

As noted, no active or potentially active faults have been mapped in the Livingston area. The project site is not in an area designated as an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2018). The closest designated active fault is the Ortigalita fault, which is a Holocene fault approximately 29 miles to the west of the project site. Therefore, no fault rupture hazard exists on the project site.

While no seismic activity events have been recorded in Livingston, the City and project site are potentially subject to ground shaking from nearby fault systems, which represent a hazard to buildings and infrastructure. All new buildings in Livingston are required to be built in accordance with the most recent version of the California Building Code adopted by the City. The California Building Code includes provisions related to seismic safety, compliance with which requires buildings, based on occupancy type, to be constructed to withstand anticipated ground shaking. As a result of these requirements, project impacts related to seismic hazards are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-2: Other Geologic Hazards

The Livingston General Plan states that the City's low elevation and mild topography negate other seismic hazards, such as settlement and liquefaction (City of Livingston 1999a). Given the relatively flat topography of the area, the project site is not subject to landslides. As noted, the depth to groundwater in the Livingston area ranges from 60 to 80 feet below ground surface. Given this depth, the Livingston area, including the project site, is not likely subject to liquefaction, consistent with the General Plan. The soils underlying the sites where the facilities would be constructed have not been identified as inherently unstable or prone to failure.

The project is not expected to change existing conditions related to geologic stability. Required engineering design of proposed structures and site improvements would avoid potential adverse effects related to geologic instability. This would minimize geologic stability hazards to a level that would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-3: Soil Erosion

Because of its sandy characteristic, the Delhi soil on the project site is susceptible to both wind and water erosion. Compliance with SJVAPCD Regulation VIII, which is discussed in Section 3.3, Air Quality, would reduce potential wind erosion impacts. Compliance with the provisions of Livingston Municipal Code Title 4, Chapter 6 would minimize potential water erosion impacts.

The project would also be required to comply with the provisions of the Construction General Permit from the SWRCB, including preparation of a SWPPP, which is required by the mitigation measure below. Compliance with the mitigation measure, along with other applicable regulations, would minimize the amount of sediment that leaves the construction site and potential construction water quality effects, thereby reducing soil erosion impacts to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

GEO-1: Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water requirements. The SWPPP shall be available on the construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall

submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans.

Significance After Mitigation: Less than significant

Impact GEO-4: Expansive Soils

Expansive soils are associated with soils with substantial clay content. The Delhi soil on the project site is sandy and has little to no clay content. Such soil is unlikely to be expansive. The project would have no impact related to expansive soils.

Level of Significance: No impact

Mitigation Measures: None required

Impact GEO-5: Paleontological Resources and Unique Geological Features

The project site is flat and contains no geological features that may be considered unique. The project site is underlain by the Modesto Formation, which has been a source of paleontological finds. Given past disturbances associated with agricultural activities and canal installation on the project site, it is unlikely that any intact paleontological resources would be encountered during project construction. However, it is conceivable that currently unknown resources may be uncovered during project construction activities. Procedures to address paleontological discoveries if they should occur are set forth in the mitigation measure below. Implementation of this mitigation would reduce potential impacts to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

GEO-2: If any subsurface paleontological resources are encountered during construction of the project, all construction activities within 50 feet of the encounter shall be halted until a qualified paleontologist can examine these materials, determine their significance, and if significant recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

Significance After Mitigation: Less than significant

Impact GEO-6: Access to Mineral Resources

As described above, there are no identified mineral resources areas on or near the project site, including oil and gas fields. There are no active mining operations on or near the project site. The project would have no effect on the availability of or access to locally designated or known mineral resources. The project would have no impact on mineral resources.

Level of Significance: No impact

Mitigation Measures: None required

9.0 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL SETTING

Global Climate Change and Greenhouse Gases

Global climate change is a change in the average weather conditions, such as temperature and rainfall, of the Earth over a long period of time. Recent scientific observations and studies indicate that global climate change, linked to an increase in the average global temperature that has been observed, is now occurring. There is a consensus among climate scientists that the primary cause of this change is human activities that generate emissions of greenhouse gases (GHGs) (CAPCOA 2009). GHGs are gases that trap heat in the earth's atmosphere. They include carbon dioxide, the most abundant GHG, as well as methane, nitrous oxide, and other, less abundant gases. Although each GHG has heat-trapping properties, they vary in the amount of heat they can trap. Measurements of GHG emissions are commonly expressed in carbon dioxide equivalent (CO_2e), in which emissions of all other GHGs are converted to equivalent CO_2 emissions.

GHG emissions in California in 2018, the most recent year for which data are available, were estimated at approximately 425 million metric tons CO_2e – a decrease of approximately 13% from the peak level in 2004. Transportation was the largest contributor to GHG emissions in California, with approximately 40% of total emissions. Other significant sources include industrial activities, with approximately 21% of total emissions, and electric power generation, both in-state and imported, with approximately 15% of total emissions (ARB 2020b). No data on GHG emissions from the City of Livingston are available.

Concerns related to global climate change include the direct consequences of a warmer climate, but also include indirect effects such as reduced air quality, reduced snowpack, higher-intensity storms, and rising sea levels. All these changes have implications for the human environment, as well as existing ecosystems and the species that depend on them. The United Nations Intergovernmental Panel on Climate Change (IPCC) has concluded that stabilization of greenhouse gases at a concentration of 400-450 parts per million (ppm) CO_2e is required to keep mean global warming below 2° Celsius, which is considered necessary to avoid dangerous impacts of climate change (IPCC 2001). According to data collected by the National Oceanic and Atmospheric Administration, the carbon dioxide concentration in the atmosphere was 413.92 ppm in June 2019 (NOAA 2019).

The State of California, through a collaboration of three agencies, has prepared Climate Change Assessments that provide scientific assessments on the potential impacts of climate change in California and reports potential adaptation responses. The most recent

report, issued in 2019, includes assessments of climate change impacts by region, including the San Joaquin Valley. Potential climate change impacts occurring in the San Joaquin Valley include the following (Westerling et al. 2018):

- Acceleration of warming across the region and state.
- More intense and frequent heat waves.
- Higher frequency of catastrophic floods.
- More intense and frequent drought.
- More severe and frequent wildfires.

The consequences of these impacts would fall on the following sectors in the San Joaquin Valley (Westerling et al. 2018):

- Agriculture is one of the most vulnerable sectors due in part to more frequent and severe drought, as well as tighter water supply. Regulatory and physical constraints on water supply for agriculture, and environmental factors such as warmer temperatures and more variable precipitation, new pests, and reduced chill hours will affect agricultural decision-making and implementation.
- Ecosystems are highly vulnerable to climate change given existing mankind-generated stressors and the lack of organization of landscape-scale science, funding, and mitigation of adverse impacts within the region. This is particularly the case during prolonged droughts, when scarce water supply disproportionately impacts ecosystems.
- Water resources will be severely impacted by climate change. Regional climate trends are likely to reinforce naturally highly variable precipitation regimes, but with prolonged periods of drought and pronounced precipitation events. At higher elevations, more precipitation as rain and less as snow will result in a fundamental shift in the hydrologic regime, with greater surface water flows over shorter periods of time. In all, the increased variability in timing and magnitude of surface water will result in a cascade of downstream effects, including changes in reservoir operations for flood protection, less available surface water during summer when irrigation requirements are highest, and decreased water quality. Water quality will be degraded directly, from increased stream temperatures reducing cold water management options for fisheries or from the increase in concentration of contaminants resulting from diminished flows.
- Infrastructure, including urban, water, and transportation systems, may face increased stress from higher temperatures and extreme precipitation events, including droughts and floods. Increasing urbanization in the San Joaquin Valley – and uneven land use planning throughout the region – is likely to hinder efficient and cost-effective investments in regional infrastructure.

- Public health problems will be exacerbated by many climate change effects. Warmer temperatures will facilitate the spread of disease, worsen air quality from extended agricultural fallowing, and challenge food security in disadvantaged communities. At the same time, concentration of pollutants in drinking water, particularly in small community water systems and rural household drinking water wells, may increase the incidence of waterborne disease. Disadvantaged rural communities are likely to experience more intense impacts from extreme events compared to urbanized areas.

REGULATORY FRAMEWORK

Federal

Unlike the criteria air pollutants described in Chapter 6.0, Air Quality, GHGs have no "attainment" standards established by either the federal or state governments. Nevertheless, the EPA has found that GHG emissions endanger both the public health and public welfare under Section 202(a) of the Clean Air Act, due to their impacts associated with climate change (EPA 2009).

In 2010, the EPA set GHG emissions thresholds to define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. In 2013, the EPA proposed standards to cut carbon emissions from new power plants, which were adopted in 2015. However, the EPA under the Trump administration announced its intention to review and possibly revise or rescind these standards. Also in 2015, EPA adopted the Clean Power Plan; however, implementation has been stayed by the U.S. Supreme Court, and the EPA recently announced its intention to repeal the Clean Power Plan.

In 2015, the Paris Agreement was reached among 196 countries, with each country pledging to take actions to decrease GHG emissions to reach the overall goal of limiting the increase in global temperature to no more than 2° Celsius. Although the United States was a signatory to the Paris Agreement, the Trump administration announced its intention to withdraw from it. Formal withdrawal from the agreement would not occur until November 2020 at the earliest. However, the incoming Biden administration has announced its intention to rejoin the agreement.

State

California has addressed climate change on its own initiative as early as 1988, when the California Energy Commission was designated as the lead agency for climate change issues. However, the most significant state activities have occurred since 2005, when various executive orders and State legislation established the current framework for dealing with climate change. Several of these actions are described below.

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05, signed by Governor Schwarzenegger in 2005, established GHG emission reduction targets for California. Specifically, GHG emissions are to be reduced to the year 2000 level by 2010, the year 1990 level by 2020, and to 80% below the 1990 level by 2050. The desired 2050 GHG emission reduction is consistent with the IPCC objectives for stabilizing global climate change. The 2020 reduction goal set forth by S-3-05 was codified by AB 32, which is described below.

On April 29, 2015, Governor Brown signed Executive Order B-30-15, which advances the goals of Executive Order S-3-05 by establishing a GHG reduction target of 40% below 1990 levels by 2030. The 2030 reduction goal established by B-30-15 was codified by SB 32, which also is described below. To date, the 2050 reduction goal has not been made State law.

AB 32

AB 32, the Global Warming Solutions Act of 2006, is State legislation that sets goals of reducing GHG emissions to year 2000 levels by 2010 and to year 1990 levels by 2020. These specific goals are directly related to the Governor's overall objectives established in Executive Order S-3-05. The State's initial planning efforts are oriented toward meeting the legislated 2010 and 2020 goals, while placing the State on a trajectory that will facilitate eventual achievement of the 2050 goal set forth in Executive Order S-3-05. The ARB has primary responsibility for AB 32 implementation.

ARB adopted a Climate Change Scoping Plan (Scoping Plan) in 2008 with the purpose of meeting the AB 32 targets. The Scoping Plan details the various GHG reduction initiatives that will be undertaken by the State or passed down to local government, and it quantifies the GHG emission reductions associated with each of the initiatives. The 2008 Scoping Plan proposed to reduce GHG emissions from the State's projected 2020 "business-as-usual" emissions by approximately 29%. Under the Scoping Plan, nearly 85% of the GHG reductions would be achieved under a "cap-and-trade" program and "complementary measures," including expansion of energy efficiency programs, increase in the use of renewable energy sources, and low-carbon fuel standards, among others. The remaining 15% would include measures applicable to GHG sources not covered by the cap-and-trade program (ARB 2008b).

The cap-and-trade program is the centerpiece of the GHG reduction program set forth in the Scoping Plan. In general, the program sets a "cap" on the total GHG emissions that would be allowed in California, which gradually decreases over time. Allowances for GHG emissions are sold at auction to industrial activities and utilities that emit large quantities of GHGs, which in turn can sell allowances that are unused to other activities that need more allowances (the "trade" component). The cap-and-trade program is set to expire after 2020. The State Legislature is considering an extension of the program to 2030, as part of a strategy to meet GHG reduction targets set by SB 32 (see below).

In May 2014, the ARB approved the First Update to the Scoping Plan. The 2014 Update lays the foundation for establishing a broad framework for continued emission reductions

beyond 2020, on the path to the 2050 target set forth in Executive Order S-3-05. It recommends actions in nine sectors: energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program (ARB 2014).

Recently, the ARB released the California Greenhouse Gas Emission Inventory, with data from 2018. As noted above, total state GHG emissions in 2018 were approximately 425 million metric tons CO2e. This total was approximately six million metric tons CO_2e below the 2020 target established by AB 32 (ARB 2020b).

SB 32

In 2016, the State Legislature passed, and Governor Brown signed, Senate Bill (SB) 32. SB 32 extends the GHG reduction goals of AB 32 by requiring statewide GHG emission levels to be 40% below 1990 levels by 2030, in accordance with the target originally established by Executive Order B-30-15. The State has adopted an updated Scoping Plan that sets forth strategies for achieving the SB 32 target. The updated Scoping Plan continues many of the programs that were part of the previous Scoping Plans, including the cap-and-trade program, low-carbon fuel standards, renewable energy, and methane reduction strategies. It also addresses for the first time GHG emissions from the natural and working lands of California, including the agriculture and forestry sectors (ARB 2017). As a result of legislation enacted in July 2017, the cap-and-trade program was extended from 2020 to 2030.

Executive Order B-55-18

On September 10, 2018, Governor Brown signed Executive Order B-55-18. This executive order set a statewide goal of achieving carbon neutrality no later than 2045. "Carbon neutrality" refers to achieving net zero carbon-containing emissions (i.e., GHGs) by balancing a measured amount of carbon released with an equivalent amount sequestered or offset. After 2045, California shall achieve and maintain net negative GHG emissions. The goals set by Executive Order B-55-18 have not been codified, and the authority of executive orders as related to CEQA analysis is unclear. Nevertheless, in the interests of disclosure, the goals of Executive Order B-55-18 are noted in this EIR.

Regional and Local Agencies

SJVAPCD

In August 2008, the SJVAPCD adopted its Climate Change Action Plan. The goals of the Climate Change Action Plan are, among others, to establish processes for assessing the significance of project-specific GHG impacts for projects permitted by the SJVAPCD, and to assist local land use agencies, developers and the public by identifying and quantifying GHG emission reduction measures for development projects (SJVAPCD 2008).

In its 2009 Final Staff Report on addressing GHG emission impacts under CEQA, the SJVAPCD adopted an approach to determine the significance of project-specific GHG emissions. This approach relies on a project implementing Best Performance Standards, which would lead to a determination of the project having a less than cumulatively significant impact. For projects not implementing Best Performance Standards, or for any projects requiring an EIR, demonstration of a 29% reduction in GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact. The 29% reduction standard was determined by the SJVAPCD to be consistent with the emission reduction targets established in the state's Climate Change Scoping Plan (SJVAPCD 2009). These criteria were incorporated in SJVAPCD's GAMAQI, updated in 2015 (SJVAPCD 2015).

Merced County Association of Governments (MCAG)

MCAG is the metropolitan planning organization for Merced County and its incorporated cities. SB 375, enacted in 2008, requires metropolitan planning organizations to develop a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP) preparation process. An SCS must demonstrate an approach to how land use development and transportation can work together to meet GHG emission reduction targets for cars and light trucks. MCAG adopted its current RTP/SCS in 2018. The target for Merced County, set by the ARB in 2010, calls for the region to reduce per capita emissions 5% by 2020 and 10% by 2035 (MCAG 2018a).

City of Livingston

The City currently does not have a GHG emission reduction plan, also known as a Climate Action Plan. The current Livingston General Plan has no objectives or policies that explicitly address GHG emissions. The City is in the process of updating its General Plan, but no draft plan has been prepared to date.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

This EIR conducted its GHG analysis in accordance with CEQA Guidelines Section 15064.4, which states that a lead agency should make a good-faith effort, based to the

extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project. CEQA Guidelines Section 15064.4(b) states that a Lead Agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- 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.

Impact GHG-1: Project GHG Emissions and Consistency with Applicable Plans and Policies

The CalEEMod model estimated the total GHG construction and operational emissions associated with the project; the results are available in Appendix B of this EIR. Table 9-1 presents the results of the CalEEMod run.

TABLE 9-1
PROJECT GHG EMISSIONS

GHG Emission Type	Unmitigated Emissions (metric tons CO_2e)	Mitigated Emissions (metric tons CO_2e)
Construction[1]	1,080.4	1,080.4
Operational[2]	7,030.6	6,598.1

[1] Total emissions for construction period.
[2] Annual emissions.
Source: California Emissions Estimator Model v. 2016.3.2.

Based on results from the CalEEMod run, project construction GHG emissions for would be approximately 1,080 metric tons CO_2e for the construction period. Neither the State nor SJVAPCD has established significance thresholds for GHG emissions from construction activities or from project operations. However, construction emissions would cease once work is completed. In addition, implementation of SJVAPCD Regulation VIII and other rules described in Chapter 5.0, Air Quality, is expected to reduce incrementally the amount of GHGs generated by project construction.

Project operational GHG emissions would be approximately 7,031 metric tons CO_2e annually under "unmitigated" conditions (i.e., without implementation of any project features or regulations that would reduce GHG emissions). The CalEEMod run incorporated the following project features and regulations that would reduce GHG emissions:

- Installation of sidewalk along currently unimproved frontage per City standards and connection with other sidewalks in area.
- Availability of existing public transit service.
- Proximity to downtown/job center.
- Use of LED lighting.
- In accordance with SB X7-7, new development would implement water conservation measures that lead to a 20% reduction in indoor and outdoor water use.
- In accordance with AB 341, new commercial development would divert 75% of its solid waste stream through recycling and other measures.

With incorporation of these measures, estimated operational GHG emissions would be reduced to approximately 6,598 metric tons CO_2e annually, an approximate 6.2% reduction in GHG emissions from unmitigated levels.

Approximately 83% of the GHG emission reduction programs in the Scoping Plan counted toward meeting the 29% objective for 2020 are State-level programs, with the remaining 17% to be achieved by programs at the local government level, including development review. Thus, the local action share of the 29% reduction would be 4.93%. Based on this, it can be assumed that a development project that achieves at least a 4.93% reduction in GHG emissions from business-as-usual levels would be consistent with the objectives of both State and SJVAPCD GHG reduction plans. The 6.2% reduction associated with the project would exceed this local share.

The project would also be consistent with the goal of reducing per capita GHG emissions through compact growth, as set forth in the RTP/SCS. One of the RTP/SCS strategies is to direct growth to existing communities through investments that provide a range of housing choices for existing and new residents. The project would be consistent with this strategy. Overall, impacts related to GHG emissions and GHG reduction plans would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

10.0 HAZARDS AND HAZARDOUS MATERIALS

This chapter focuses on hazards associated with hazardous materials, proximity to airports, and wildfires. Hazards associated with TACs are discussed in Chapter 5.0, Air Quality; geologic and soil hazards are addressed in Chapter 8.0, Geology; and potential flooding hazards are addressed in Chapter 11.0, Hydrology.

ENVIRONMENTAL SETTING

Hazardous Materials

Data on hazardous waste and hazardous material use and transportation sites are kept in the GeoTracker database, maintained by the SWRCB, and in the EnviroStor database, maintained by the California Department of Toxic Substances Control (DTSC). GeoTracker and EnviroStor map the locations and provide the names and addresses of hazardous material sites, along with their contamination history and cleanup status.

A search of both GeoTracker and EnviroStor databases indicated one record of a hazardous material site in the vicinity of the project (SWRCB 2018, DTSC 2018). This site, entered in EnviroStor, is approximately 0.1 miles north of the project site, on the southeast corner of Main Street and Peach Avenue. The site, now occupied by the Livingston High School playing fields, was initially investigated in 1995 for the presence of pesticides and metals associated with agricultural chemical applications and pole-mounted transformers. In 2009, a Removal Action Workplan was prepared for the removal and disposal of the contaminated soils. The following year, the RWQCB certified that all remedial actions had taken place and that no further action was necessary.

A list of solid waste disposal sites identified by SWRCB that exhibit waste constituent levels outside the waste management unit as being above hazardous waste screening criteria did not contain any locations within the project vicinity (CalEPA 2016a). Likewise, a list by SWRCB containing sites under Cease and Desist Orders and Cleanup and Abatement Orders showed no locations at the project site – the closest such listed site is the Livingston Wastewater Treatment Facility more than two miles to the northwest (CalEPA 2016b).

Although no hazardous material sites have been identified on the project site, the site has been and is currently used for agricultural production. Past and present use of chemicals in agricultural operations are a potential hazard if concentrations left in the soil are at a level that can affect human health. As discussed in Chapter 19.0, Other CEQA Issues, the presence of pesticides is a contributing factor to designation of the Census tract surrounding the project site as an environmentally burdened tract.

Agricultural chemicals are typically applied in dilute concentrations and degrade relatively quickly when used properly. According to the DTSC, based on data from former agricultural properties, the only pesticide class of concern are organochlorine pesticides, such as DDT, dieldrin, and toxaphene, among others. Such pesticides are persistent and accumulate in the environment. Most other classes of pesticides have relatively short half-lives and have not been found in agricultural fields (DTSC 2008). It should be noted that the use of most organochlorine pesticides has been banned in the United States.

Airport Hazards

Development near airports is subject to hazards from accidents associated with aircraft arrivals and departures. In general, development that concentrates residents or employees near airports is discouraged. Airport land use compatibility plans for public airports generally delineate safety zones with specific information on the type of development allowed within each zone.

There are no public or public-use airports in the Livingston area. The nearest airport to the project site is Turlock Municipal Airport, approximately eight miles north of the project site near the community of Ballico. Castle Airport in Atwater is approximately nine miles to the east.

Wildfire Hazards

The Livingston General Plan states that wildland fire hazards threaten life and property within the Livingston vicinity. Wildland fires are an annual hazard in Merced County. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining fraction of wildland fires. High hazard areas for wildland fires in Livingston are the grass and brush-covered areas located east of the City (City of Livingston 1999a). The project site is not within these areas.

The Fire and Resource Assessment Program of the California Department of Forestry and Fire Protection (Cal Fire) identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to areas designated as State Responsibility Areas – areas in which the State has primary firefighting responsibility. The project site is not within a State Responsibility Area and therefore has not been placed in a Fire Hazard Severity Zone for such areas (Cal Fire 2007a). Both the project site and surrounding area are in a Local Responsibility Area, and both areas are not in any designated fire hazard severity zones (Cal Fire 2007b).

REGULATORY FRAMEWORK

Federal Hazardous Material Regulations

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous substances is the EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The RCRA established a federal hazardous substance "cradle-to-grave" regulatory program that regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. Under RCRA, individual states may implement their own hazardous substance management programs if they are consistent with, and at least as strict as, the RCRA and receive EPA approval.

The EPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), commonly referred to as Superfund. The purpose of CERCLA is to provide authorities the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. The Superfund Amendments and Reauthorization Act amended the CERCLA to, among other things, expand EPA's response authority, strengthen enforcement activities at Superfund sites, and broaden the application of the law to include federal facilities. In addition, new provisions were added dealing with emergency planning and community "right to know."

The U.S. Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA.

State Hazardous Material Regulations

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including the California Environmental Protection Agency (CalEPA) and the Office of Emergency Services. The California Highway Patrol and California Department of Transportation (Caltrans) enforce regulations specifically related to hazardous materials transport. Within CalEPA, the DTSC has primary authority to enforce hazardous materials regulations for the generation, transport and disposal of hazardous substances under the authority of the Hazardous Waste Control Law, with delegation of enforcement to local jurisdictions that enter into agreements with the agency.

Under both RCRA and the Hazardous Waste Control Law, the generator of a hazardous substance must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage, or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage, or disposal facility to which it sends waste.

Local Hazardous Material Regulations

The Unified Hazardous Waste and Hazardous Management Regulatory Program, enacted in 1993, is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. CalEPA adopted implementing regulations for the Unified Program in 1996. The Unified Program is implemented at the local level by a Certified Unified Program Agency (CUPA). The Merced County Environmental Health Department was approved by the State as the CUPA for the county and incorporated cities therein. As the CUPA, the County Environmental Health Department administers various programs to minimize potential risks to public health and safety, such as the California Accidental Release Prevention, Hazardous Waste Generator, and aboveground and underground storage tank programs.

Another program for which the CUPA is responsible is the Hazardous Material Business Plan program. A Hazardous Material Business Plan must be prepared by any facility that handles a hazardous material or mixture containing a hazardous material that has a quantity equal to or greater than 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for a compressed gas at any one time during the reporting year.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials,
- 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,
- Emit hazardous emissions or handle hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school,
- Be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and as a result create a significant hazard to the public or the environment,
- For a project located within an airport land use plan or within two miles of a public or public-use airport if no plan has been adopted, result in a safety hazard or excessive noise for people residing or working in the project area,
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

CEQA Guidelines Appendix G also has a Wildfire section that states a project located in or near a State Responsibility Area or lands classified as being in a Very High Fire Hazard Severity Zone may have a significant impact on the environment if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan,
- 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,
- 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, or
- 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.

Impact HAZ-1: Hazardous Material Transportation, Use, and Storage

Hazardous materials that are likely to be used and stored on the project site would include cleaning products and landscaping chemicals such as pesticides, herbicides, and fertilizers. The amount of these potential hazardous materials that would be stored would likely be below that required for the preparation of a Hazardous Material Business Plan that would be submitted to the County Environmental Health Department. Anticipated quantities that would be used or stored would not present a health hazard to residents either onsite or in the vicinity. Project impacts related to transport, use, or storage of hazardous materials would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HAZ-2: Hazardous Material Releases

As noted in a) above, the proposed residential project would not involve the transport, use, or storage of hazardous materials in substantial quantities. Hazardous material use on site would be confined to maintenance and cleaning activities. These materials are not expected to be used or stored in quantities large enough to pose a threat to human health and the environment if released.

Construction activities on the project site may involve the use of hazardous materials such as fuels and solvents, and thus create a potential for hazardous material spills.

Construction and maintenance vehicles would transport and use fuels in ordinary quantities. Fuel spills, if any occur, would be minimal and would not typically have significant adverse effects. Potential hazardous materials spills during construction are addressed in the required SWPPP, described in Chapter 8.0, Geology and Soils. In accordance with SWPPP requirements, contractors have absorbent materials at construction sites to clean up minor spills. Other substances used in the construction process would be stored in approved containers and used in relatively small quantities, in accordance with the manufacturers' recommendations and/or applicable regulations.

As noted in the Significance Thresholds, a project could have a significant impact if it emits hazardous emissions or handles hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school. The nearest school to the project site is Livingston High School, approximately 0.15 miles to the north. However, as noted above, project construction and operations would not require the handling or transport of acutely hazardous materials or waste that would endanger schools or the public. The use of small quantities of hazardous materials during project construction would be limited to the project site and would not occur near any schools. The project would not generate any substantial hazardous emissions. Overall, impacts related to releases of hazardous materials would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HAZ-3: Hazardous Material Sites

Site inspections conducted by BaseCamp Environmental observed no evidence of hazardous material contamination, hazardous waste, or containers on the project site. As previously noted, a search of the GeoTracker and EnviroStor databases did not identify any active hazardous material sites on or near the project site. A list of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit did not show any locations at the project site or vicinity. Likewise, a list by SWRCB containing sites under Cease and Desist Orders and Cleanup and Abatement Orders showed no locations on or near the project site.

As noted, there are past and present agricultural activities on the project site, which may have involved the use of pesticides and other agricultural chemicals. Construction workers may be exposed to potential soil contamination on the project site. This would be a short-term exposure that is unlikely to lead to health impacts, and most agricultural chemicals that may exist in the soil are anticipated to degrade quickly. However, since the project site has remained in agricultural use, the potential exists for residual agricultural chemicals such as organochlorine pesticides. In addition, the project site is adjacent to Main Street. Traffic along Main Street over time could leave aerially deposited lead along the roadside, which could contaminate a portion of the project site or the area where work related to the project could occur.

Mitigation presented below would require an assessment of the project site to determine if residual agricultural chemicals and aerially deposited lead exist at levels that would

present a risk to health and remediate them if they do. Implementation of the mitigation measure would reduce impacts related to agricultural chemicals to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HAZ-1: Prior to final site plan approval, the project applicant shall conduct a Phase I Environmental Site Assessment to determine the potential presence of hazardous material storage or soil contamination on the project site, particularly of residual agricultural chemicals and aerially deposited lead. If this assessment determines that such a potential exists, then a Phase II Environmental Site Assessment shall be conducted to determine the location and extent of soil contamination. The Phase II Environmental Site Assessment shall present its analysis and conclusions and, if necessary, make recommendations for remediation of any contamination determined to present a potential risk to human health. All recommendations shall be implemented prior to the start of building construction.

Significance After Mitigation: Less than significant

Impact HAZ-4: Airport Hazards

As noted, there are no public or public-use airports in the Livingston area. The nearest airport to the project site is Turlock Municipal Airport approximately eight miles to the northwest. The project site is not within the Airport Influence Area of Turlock Municipal Airport nor within any of its safety zones. It is also not within the Airport Influence Area of other airports in Merced County (Merced County ALUC 2012). The project would have no impact related to airport hazards.

Level of Significance: No impact

Mitigation Measures: None required

Impact HAZ-5: Interference with Emergency Vehicle Access and Evacuations

The project is not expected to obstruct Main Street or any other public street during construction or once construction is completed. Project construction work would mostly occur on the project site. However, the project would involve improvement of the adjacent segment of Main Street and connections made to utility lines beneath Main Street. While construction work would be temporary and would cease once work is completed, it has the potential of restricting its use for emergency response or emergency evacuation. Mitigation presented below would ensure that adequate access would be maintained along public streets during construction activities thereby reducing potential impacts to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HAZ-2: Prior to project construction involving work in off-site streets, the developer shall prepare and implement a Traffic Control Plan, which shall include such items as traffic control requirements, resident notification of any required access closure, and daily access restoration. The contractor shall specify dates and times of road closures or restrictions, if any, and shall ensure that adequate access will be provided for emergency vehicles. The Traffic Control Plan shall be reviewed and approved by the City Department of Public Works and shall be coordinated with the Livingston Police Department and the Merced County Fire Department if construction will require road closures or lane restrictions.

Significance After Mitigation: Less than significant

Impact HAZ-6: Wildfire Hazards

The project site is not in a region susceptible to wildfires. Land in the project area is agricultural or developed, and neither of these existing land use has a high wildfire potential. The project site is not part of a State Responsibility Area, and Cal Fire maps indicate the site is not designated within a Very High Fire Hazard Severity Zone or a zone of higher severity for either state or local responsibility areas.

The project site is in a topographically flat area. There are no streams that cross the site. As such, it is not expected that people or structures would be exposed to significant risks from changes resulting from fires in steeper areas, including downslope or downstream flooding or landslides.

The project would reduce any existing fire hazard on the parcel by replacing the existing grasses and weeds with a paved and developed area. Project impacts related to wildfires would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

11.0 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL SETTING

Surface Waters

There are no natural streams or surface waters on or near the project site. The nearest is the Merced River, approximately 2.25 miles northwest of the project site. The only surface water feature on the project site is the Arena Canal, a concrete-lined channel owned and operated by MID. Approximately 830 feet of the Arena Canal crosses the western portion of the project site.

Groundwater

The project area is within the Merced Groundwater Subbasin, which underlies 767 square miles of central and eastern Merced County. The estimated storage capacity of the Merced Subbasin as of 1995 was 21,100,000 acre-feet to a depth of 300 feet and 47,600,000 acre-feet to the base of fresh groundwater. Both natural and applied water recharge in the Subbasin was estimated at 290,000 acre-feet, while urban and agricultural extractions totaled 546,000 acre-feet. This has led to a decline in groundwater levels of 30 feet between 1970 and 2000, although there was a period of groundwater level increase from 1978 to 1988 (DWR 2018).

The City relies on groundwater for its water supply, which is provided by nine active wells (see Chapter 16.0, Utilities and Energy). As noted in Chapter 8.0, Geology and Soils, the depth to the groundwater table in the Livingston area ranges from 60 to 80 feet below ground surface (DWR 2018). Near the project site, well depth ranges from 180 to 192 feet below ground surface (GeoSearch 2018b). Groundwater quality in the Livingston area is generally good, but water from one of the City's wells was found to have exceeded the State's Maximum Contaminant Level for arsenic and is currently shut down. Samples of City water were also found to exceed the State's Maximum Contaminant Level for 1,2,3-trichloropropane, an ingredient in a now-banned fumigant. The City is working on treatment systems to remove this contaminant and anticipates resolving this issue by the end of 2021 (City of Livingston 2019).

Flooding

A Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA) indicates that the project site is in an area designated Zone X. Zone X is considered an area of minimal flood hazard. It is not within delineated 100-year floodplain – the floodplain commonly used to assess potential flooding impacts and considered a Special Flood Hazard Area (FEMA 2008).

Under legislation collectively known as the SB 5 Bills (see below), urban and urbanizing areas in the Central Valley must be provided with 200-year flood protection no later than 2025. Preliminary maps drafted by the California Department of Water Resources (DWR) indicate the project site is outside the 200-year floodplain.

Numerous dams in or adjacent to Merced County could inundate portions of the county in the event of a dam failure. Dam failure can occur because of various natural or human causes. Flooding associated with dam failure on one of the local or upstream dams, while a low probability occurrence, would create inundation areas that affect virtually every urban area of the county. The City of Livingston would be potentially inundated by the failure of New Exchequer Dam. Dams are evaluated regularly to verify their structural integrity, including additional stresses that may result from local or regional earthquakes (Merced County 2016c).

REGULATORY FRAMEWORK

State

Water Quality Control Plan (Basin Plan)

The Central Valley RWQCB has prepared a Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins. The Basin Plan identifies water quality standards that are based on identified beneficial uses and water quality objectives based on those uses. Beneficial uses listed for surface water bodies in the vicinity of the project site include municipal and domestic supply, agriculture supply, wildlife habitat, warm and cold freshwater habitat, contact and non-contact recreation, warm and cold water migration of aquatic organisms, warm and cold water spawning, industrial process and service supply, and groundwater recharge (RWQCB 2015).

National Pollutant Discharge Elimination System

The State Water Resources Control Board (SWRCB) has the responsibility under the federal Clean Water Act through the National Pollutant Discharge Elimination System (NPDES) for the regulation of storm water quality. Surface water quality in the Livingston area is maintained through the City's Storm Water Management Program (SWMP), developed in compliance with the NPDES program and with the SWRCB's Municipal Separate Storm Sewer Systems (MS4) General Permit. Chapter 16.0, Utilities and Energy, describes the City's storm drainage system.

The program includes control measures and defines Best Management Practices (BMPs) designed to protect surface water quality associated with land development during both construction and post-construction periods (City of Livingston 2007a). Post-construction elements of the SWMP are governed by City ordinances that require compliance with the City's adopted SWMP, as permitted by the Central Valley RWQCB Order No. 2003-0005-DWQ. The SWMP identifies a range of post-construction BMPs that must be

incorporated into development plans. BMPs may include, but are not limited to, vegetated buffer strips and swales, detention basins, vaults and wetlands, and various filtration and infiltration and structures devices, among others. Under new NPDES requirements applicable to the City, storm water discharge volumes associated with new development cannot exceed existing discharges. Volume control can be achieved through a combination of low-impact development and specific measures.

Construction General Permit

As described in Chapter 8.0, Geology and Soils, projects that disturb one acre of land or more are required to obtain a Construction General Permit. Conditions of the Construction General Permit include developing and implementing a SWPPP, which among other requirements identifies the BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources.

Sustainable Groundwater Management Act

In 2014, the California Legislature passed the Sustainable Groundwater Management Act, the purpose of which is to give local agencies greater authority to manage groundwater supplies. The legislation requires the formation of local Groundwater Sustainability Agencies (GSAs) that must assess conditions in their local water basins and adopt management plans for sustainable use of groundwater and avoidance of overdraft. GSAs are to be formed by June 30, 2017. Plans for "critically overdrafted" basins must be completed and adopted by January 31, 2020, while plans for high- and medium-priority basins have an adoption deadline of January 31, 2022.

The Merced Irrigation-Urban Groundwater Sustainability Agency, of which the City is a member, was formed in 2017. A Groundwater Sustainability Plan for the Subbasin, classified as critically overdrafted, was prepared by this and two other GSAs and was adopted on January 28, 2020. The objective of the Plan is to achieve sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results such as degraded water quality and land subsidence. The primary means for achieving sustainability in the Subbasin will be reduction in groundwater pumping achieved through implementation of a framework to allocate the sustainable yield to the GSAs. This framework will be supplemented by the implementation of projects and management actions that will either increase surface water supplies to augment the sustainable groundwater yield or will increase groundwater recharge, which will in turn increase the amount of groundwater that may be sustainably used (Merced SGMA 2019).

SB 5 Bills

In 2007, the State of California approved SB 5 and a series of related Senate and Assembly bills intended to set new flood protection standards for urban areas. This group of bills, referred to collectively in this document as "the SB 5 Bills," establish the State

standard for flood protection in urban areas of the Central Valley as protection from the 200-year frequency flood. Under the SB 5 Bills, urban and urbanizing areas must be provided with 200-year flood protection no later than 2025. As noted, preliminary DWR maps indicate the project site is outside the 200-year floodplain.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality,
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin,
- Substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site, impede or redirect flood flows, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or 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,
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation, or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impact HYDRO-1: Surface Water Resources and Quality

The project would not directly affect surface waters except for the Arena Canal. The portion of Arena Canal located on the project site would be demolished and removed and replaced with a 60 to 72-inch concrete irrigation pipeline. Demolition of the canal and construction of the new pipeline will require irrigation water to be drained from the canal prior to the start of work. However, demolition and construction would not affect available water supply to the surrounding agricultural lands. All canal-related work would be done in coordination with the MID. With the draining of the canal, water quality would not be affected by demolition and construction work. It is not anticipated that the Well 20A pipeline would be affected by project construction.

As noted in Chapter 8.0, Geology and Soils, construction activities would disturb soils and soil materials, which could be transported off site by runoff and could eventually enter surface waters. Project development and operation would lead to contamination of storm run-off with fuels, oils, metals, and other substances associated with motor vehicles. These discharges could eventually enter surface waters. This is considered a potentially significant impact.

As noted, the City of Livingston has adopted a SWMP, which is intended to minimize the potential storm water quality impacts of development. Program elements most applicable to land development include construction storm water discharge requirements, industrial discharge requirements and the incorporation of post-construction BMPs. Storm water from areas of new development must be treated using the post-construction BMPs specified in the SWPPP that would be required as part of the Construction General Permit. These measures will be specified during the design phase of the project. Developers are required to enter into an agreement for maintenance of the post-construction BMPs.

Compliance with the provisions of the City's SWMP, which are specified in the mitigation measures below, would reduce impacts to a level that would be less than significant. In addition, implementation of Mitigation Measure GEO-1, described in Chapter 8.0, Geology and Soils, would minimize water quality impacts from construction activities.

Level of Significance: Potentially significant

Mitigation Measures: In addition to implementing Mitigation Measure GEO-1, the project shall implement the following:

HYDRO-1: The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans.

HYDRO-2: If required, the developer shall execute a Maintenance Agreement with the City for stormwater BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement costs of the proposed treatment devices built for the project.

HYDRO-3: The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.

Significance After Mitigation: Less than significant

Impact HYDRO-2: Groundwater Resources and Quality

As noted, the City relies on groundwater for its primary source of water. The project would not draw directly from the underlying aquifer, but it would be connected to the City's water system, and so it would indirectly affect groundwater supplies. Adequate water supply exists to accommodate this demand. Chapter 16.0, Utilities and Energy, discusses this in detail.

As noted, the City is a member of the Merced Irrigation-Urban Groundwater Sustainability Agency, which has adopted a Groundwater Sustainability Plan for the Merced Subbasin. Implementation of the Groundwater Sustainability Plan is expected to lead to more sustainable use of groundwater in the Subbasin. The project would comply with any measures adopted by the City that promotes the implementation of the Groundwater Sustainability Plan.

The project would replace an existing vacant parcel of grasses and weeds with urban development and pavement. This would substantially reduce the amount of precipitation that would percolate into the ground, thereby reducing groundwater recharge. Given the relatively small acreage of the project site and the extent of other lands available for recharge in and surrounding the City, the project is not expected to interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Merced Integrated Regional Water Management Plan indicates an abundance of available land suitable for groundwater recharge in the Livingston vicinity (RMC Water and Environment 2013).

The project proposes to collect runoff on the project site, which may contain contaminants such as vehicle fluids and metal and rubber deposits. The runoff would be stored in two detention basins. Since the project does not propose to connect to the City's storm drainage system, the runoff in these basins is expected to percolate into the ground. Given the depth to the groundwater table in Livingston, approximate 60 to 80 feet below ground surface, contaminants in the percolating runoff are likely to be substantially reduced, if not eliminated, before reaching the local aquifers. Therefore, the project is not expected to affect groundwater quality. Project impacts on groundwater are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HYDRO-3: Drainage Patterns and Runoff

The project would alter existing storm drainage patterns, due to site grading and the installation of pavement and storm drainage facilities. In addition, proposed improvements on the project site would result in the generation of additional runoff due to the introduction of impervious surfaces.

The project would construct an onsite storm water drainage system which would collect all runoff generated on the project site and deliver it to two on-site retention basins, in

accordance with City standards and specifications. The storm drainage system is expected to have adequate capacity to accommodate onsite runoff. As the collected runoff would be retained on site, the City's storm drainage system would not need to be expanded to the project site.

Runoff would be likely to collect pollutants, mainly deposits from motor vehicles. However, as the collected runoff would be retained on site, the project would not contribute this potential polluted runoff to the City's storm drainage system or to other waters. As discussed under Impact HYDRO-2, it is expected that these pollutants would be filtered as the runoff in the retention basins percolates into the ground, thereby avoiding contamination of aquifers beneath the project site.

Drainage plans would be submitted for City approval prior to construction. Drainage improvements would need to comply with City design standards and BMPs contained in the City's SWMP. Project impacts on drainage and runoff are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HYDRO-4: Flood Hazards

As noted, the project area is in an area exposed to minimal flood hazard. It is not within a 100-year floodplain as indicated by the FEMA map for the area, nor is it within a 200-year floodplain as indicated by DWR. Because of this, the project would be unlikely to impede or redirect any flood flows. The project would have no impact related to flood flows.

As noted, the project site is within the potential inundation zone of New Exchequer Dam were it to fail. The Merced County General Plan states that the probability of dam failure is low (Merced County 2013a). There are no levees in the Livingston area, so there is no hazard associated with levee failure. The project area is in a topographically flat region away from the coast, with no large bodies of water in the vicinity. Therefore, the project would not be affected by seiche, or tsunamis. Project impacts related to other flooding hazards would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HYDRO-5: Consistency with Water Quality and Groundwater Management Plans

As described above, the project would be required to comply with the provisions of the City's SWMP, which is designed to maintain local water quality. There are no projects or implementing actions in the Groundwater Sustainability Plan for the Merced Subbasin that apply specifically to the project. However, it is expected that the project would

comply with any applicable City regulations or programs that are designed to implement the Groundwater Sustainability Plan. The project would have no impact related to water quality or groundwater plans.

Level of Significance: No impact

Mitigation Measures: None required

12.0 LAND USE, AGRICULTURE, AND POPULATION

ENVIRONMENTAL SETTING

Land Use Patterns

The project site is located at the southern limits of the City of Livingston. It is a flat, undeveloped area. The western portion of the site is currently vacant, while the eastern portion is currently planted in field crops. As noted, the MID Arena Canal traverses the western portion of the site.

The area surrounding the project site more generally consists of a mix of vacant and developed land. The site is bordered on the south by Yagi Brothers Produce, a facility that processes and ships agricultural produce, and on the north by the Livingston High School playing fields. Lands to the east and southeast are vacant or currently under agricultural production. As noted, the project site surrounds an existing single-family home, and residential development consisting of an apartment complex and single-family residences is located to the west. South of this residential development is vacant and agricultural land.

Agricultural Resources

Agriculture has been and continues to be an important part of the economy in Livingston and Merced County. Approximately 76.4% of the County's land area is farms (U.S. Department of Agriculture 2019). The gross value of agricultural production in the County was $3,247,618,000 in 2018, the most recent year for which data are available. The top five agricultural products in 2018 were milk, almonds, chickens, cattle and calves, and sweet potatoes (Merced County Agricultural Commissioner's Office 2018). Foster Farms, a poultry product company, is based in Livingston and is the largest private-sector employer in the City. As noted above, Yagi Brothers Produce is adjacent to and south of the project site.

The project site has been used for agriculture in the recent past, and the eastern portion is currently planted in field crops. The Important Farmland Maps, prepared by the California Department of Conservation as part of its Farmland Mapping and Monitoring Program, designate the viability of lands for farmland use, based on the physical and chemical properties of the soils and other factors. The maps categorize farmland, in decreasing order of soil quality, as "Prime Farmland," "Unique Farmland," and "Farmland of Statewide Importance." Collectively, these categories are referred to as "Farmland" in the CEQA Checklist in Appendix G of the CEQA Guidelines and in this document. There are also designations for grazing land and for urban/built-up areas, among others.

As of 2010, the most recent year of available data, the total amount of Farmland in Merced County was 531,470 acres – approximately 42% of the total acres inventoried in the county (Merced County 2013c). According to the 2016 Important Farmland Map of Merced County, the most recent map available, the project site includes land designated as Prime Farmland and Farmland of Statewide Importance (California Department of Conservation 2018).

Forestry products such as timber are considered agricultural products. Questions added to CEQA Guidelines Appendix G encourage the analysis of project impacts on forestry resources. There are no designated forest lands (i.e., National Forest lands, State forests, or lands zoned for timber production) on the project site or within the City. Therefore, impacts on forestry resources will not be analyzed in this EIR.

Williamson Act

The Land Conservation Act of 1965, commonly known as the Williamson Act, was enacted to preserve farmland in California. Under the Williamson Act, a contract is executed between landowners and local governments to voluntarily restrict development on property in exchange for lower property tax assessments based on the existing agricultural land use. Contracts are entered for a 10-year period and can be terminated only by a nonrenewal or cancellation. Additional features of the Williamson Act program include the requirement that contracted parcels be located in designated "agricultural preserves" of at least 100 acres in size to encourage the concentration of enrolled land; and annual state payments ("subventions") to participating local governments as partial reimbursement for the loss of local property tax revenue.

A change in the Williamson Act in 1998 allows for the creation of a Farmland Security Zone. To create a Farmland Security Zone, a landowner enters a contract for a minimum of 20 years. In exchange, the landowner receives an assessment on the property based on 65% of either its Williamson Act valuation or its Proposition 13 valuation, whichever is lower.

In Merced County, there were 256,120 acres of prime agricultural land and 207,910 acres of non-prime agricultural land under Williamson Act contract in 2015, the most recent year for which information is available. No land was in a Farmland Security Zone (California Department of Conservation 2016). The project site is not under a Williamson Act contract nor in a Farmland Security Zone.

Population and Housing

As of January 1, 2020, the population of Livingston was estimated at 15,052, an increase of 34.6% from its 2010 population as recorded by the U.S. Census Bureau (California Department of Finance 2020). Table 12-1 below shows population and growth trends in Livingston, Merced County, and the State of California from 2010 to 2020.

TABLE 12-1
POPULATION OF LIVINGSTON, MERCED COUNTY, AND CALIFORNIA

Jurisdiction	Population April 1, 2010	Population January 1, 2020	Population Growth 2010-2020
Livingston	13,058	15,052	15.3%
Merced County	255,793	283,521	10.8%
California	37,253,956	39,782,870	6.8%

Source: California Department of Finance 2020.

As of January 1, 2020, the City of Livingston had an estimated 3,690 housing units - an increase from 3,320 in 2010. Of the total housing units in 2020, 3,113 were single-family detached units (typical houses), approximately 84.5% of the total. Approximately 8.5% of the total housing units were multifamily units of five or more per building. The total number of such units in 2020 was 312, an increase from 263 in 2010. The vacancy rate in Livingston as of 2020 is 3.3%, the lowest among the incorporated cities in Merced County. The average number of persons per household in Livingston is 4.22, which is the highest among the incorporated cities in the County (California Department of Finance 2020).

REGULATORY FRAMEWORK

City of Livingston General Plan

The City of Livingston adopted its current General Plan in 1999. The Livingston General Plan is a long-range plan to guide physical, social, and economic development within its Planning Area, which includes the land within the Livingston city limits and surrounding unincorporated lands. It accomplishes this by setting objectives, policies, and standards that guide future growth within the Planning Area to the year 2020. The General Plan consists of eleven elements: Land Use; Circulation; Open Space, Conservation, and Recreation; Urban Boundary; Community Design; Noise; Public Services and Facilities; Safety; and Housing.

As part of the General Plan, a Land Use Map was prepared that indicates the preferred development pattern within the Planning Area. The Land Use Map designates area for specific types of development, such as residential, commercial, and industrial, among others. As noted in Chapter 2.0, Project Description, the current City General Plan designation for the project area is High-Density Residential. High-Density Residential provides for the highest residential densities permitted in the City, ranging from 12 to 29 dwelling units per gross acre. The Livingston General Plan notes that a project in an area designated High-Density Residential that has more than 25 units or a density of more than 24 units per gross acre shall require a Conditional Use Permit. Lands adjacent to the project site are designated for residential and public facility development.

The General Plan is in the process of being updated, except for the Housing Element which had been updated separately (see below). Because the City's current General Plan is more than two decades old, there are several issues that the City believes should be addressed to keep the General Plan relevant and consistent with State law. Among these are climate change, environmental justice, and changes in the economy and technology. The General Plan update proposed to provide a guide to future growth and development in the Livingston area to the year 2040 (City of Livingston 2020). At this time, no draft General Plan update has been prepared.

Housing Element

In 2016, the City adopted an updated Housing Element as part of its General Plan. The Housing Element, one of the required elements of a General Plan, is designed to encourage housing development adequate to meet the needs of all residents during the planning period of 2016-2024. It discusses current and future housing needs based on population demographics and projections, analyzes constraints on housing development, provides an inventory of land suitable for housing development, and sets goals, policies, and programs that address identified housing needs in Livingston. Housing Element policies applicable to the project include the following:

- Policy 1.1 - Encourage the development of a variety of housing types at various prices in order to maintain a diverse housing stock for residents of all income levels.
- Policy 1.6 - Maintain an adequate housing stock to accommodate increases in the work force.
- Policy 2.1 - Provide zoning for a variety of residential uses, including high, medium, and low densities and Planned Developments.

City of Livingston Municipal Code – Zoning Regulations

Title 5 of the Livingston Municipal Code contains the zoning regulations for the City. The zoning regulations provide for specific guidelines for the development of the City in such a manner as to achieve progressively the general arrangement of land uses and implement the policies indicated in the Livingston General Plan. Zones are designated for various types of development, and the land uses allowed within each zone are specified. Some land uses in a zone are allowed "by right," while others are allowed with a City permit.

The current zoning for the project site is R-3, High-Density Residential. The R-3 zone allows multifamily development by right. However, as noted in the discussion of the Livingston General Plan, a project that has more than 25 units or a density of more than 24 units per gross acre requires issuance of a Conditional Use Permit. The proposed project will require a Conditional Use Permit.

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on land use and population if it would:

- Physically divide an established community,
- 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,
- 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, to non-agricultural use,
- Conflict with existing zoning for agricultural use or a Williamson Act contract,
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use,
- 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), or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Impact LUP-1: Division of Communities

The project site is a part of a planned residential area that would provide additional housing units and address the current housing shortage in the City of Livingston, consistent with the Livingston General Plan. The project would not divide existing residential communities in the area, which are located north and west of the project site across existing streets. The project would have no impact on division of established communities.

Level of Significance: No impact

Mitigation Measures: None required

Impact LUP-2: Conflict with Applicable Plans, Policies, and Regulations

Project development would be consistent with existing Livingston General Plan and zoning designations, both of which allow for the high-density residential development proposed by the project. The General Plan was prepared to balance City growth and

development with environmental protection to the extent practical. The zoning ordinance is required to be consistent with the General Plan. Therefore, the project is not expected to conflict with any City plans and ordinance containing provisions designed to avoid or minimize environmental effects.

This IS/MND discusses other potential project impacts that could affect City ordinances and Livingston Municipal Code provisions. The project would be required to comply with these ordinances and provisions. Project impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact LUP-3: Conversion of Farmland

The project site is designated as Prime Farmland and Farmland of Statewide Importance by the Farmland Mapping and Monitoring Program. Both designations meet the CEQA Guidelines Appendix G definition of Farmland; therefore, the project would convert Farmland to non-agricultural use.

The Livingston General Plan EIR, certified in 1999, evaluated the potential impact of conversion of prime agricultural land. According to the EIR, development as proposed under the General Plan would result in the conversion of approximately 500 acres of prime agricultural lands and 2,750 acres of farmland of statewide importance to urban uses. Specific General Plan policies address these impacts on agricultural land. These include the following (City of Livingston 1999b):

- General Plan Urban Boundary Element Policies 6.2.A.2 and 3. The first policy establishes criteria that must be satisfied to develop beyond proposed urban growth areas. The second would allow residential development to occur on lands currently in agricultural production only if these lands are substantially contiguous to existing urban development.

- Land Use Element Policies 3.1.A.1-4, 7-9, and 11. These policies are expected to have a beneficial effect on agricultural lands by establishing and promoting logical growth patterns. Policy 3.1.A.11, in particular, designates land on the General Plan map as a reserve for urban development in part to maintain the integrity of surrounding agricultural activities.

- Open Space, Conservation, and Recreation Element Objectives 5.1 A, B, and C and Policies 5.1.1 and 2. These goals and policies are expected to have a beneficial effect on agricultural lands by recognizing the intrinsic value of surrounding agricultural lands to open space and resource management. Policy 5.1.1 maintains a 20-acre minimum parcel size for parcels designated as a reserve for urban development, while Policy 5.1.2 encourages an increase in residential densities to reduce the need for prime agricultural land conversion.

Nevertheless, even with implementation of these General Plan policies, the EIR concluded that the impact of agricultural land conversion would be significant and unavoidable, as agricultural land would be lost (City of Livingston 1999b).

A Statement of Overriding Considerations for this issue was adopted by the City Council in conjunction with adoption of the General Plan. This Statement of Overriding Considerations remains operative. The project site has been annexed to the City and is designated and zoned for High Density Residential development.

CEQA Guidelines Section 15152(d) states that where an EIR has been prepared and certified for a plan, a lead agency for a later project consistent with the plan should limit an EIR on the later project to effects which 1) were not examined as significant effects on the environment in the prior EIR, or 2) are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means. The project is consistent with the General Plan designation for the site. Revisions to the project, or conditions imposed on the project, are unlikely to avoid or reduce the conversion of Farmland on the project site. Pursuant to CEQA Guidelines Section 15152(d), this environmental impact does not require additional consideration under CEQA. As such, project impacts on direct Farmland conversion are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact LUP-4: Agricultural Zoning and Williamson Act

As previously noted, the project site is designated and zoned for residential development, not for agriculture. Also previously noted, the project site is not under a Williamson Act contract nor within a Farmland Security Zone. The project would have no impact on this issue.

Level of Significance: No impact

Mitigation Measures: None required

Impact LUP-5: Indirect Conversion of Agricultural Lands

The project site, along with other agricultural lands to the east, has been annexed to the City of Livingston and has been designated and zoned for urban development. Adjacent agricultural land to the south is also designated for future development by the Livingston General Plan, although it has not been annexed to the City. The project would connect to existing City infrastructure in the vicinity and would not require the extension of infrastructure into agricultural land. All project construction would occur on site and would not encroach upon adjacent farmland or affect access to farmland. Project impacts on indirect conversion of Farmland would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact LUP-6: Inducement of Unplanned Population Growth

The project would involve multifamily residential development on a 17.3-acre site. The project would create 480 new multi-family units. At the citywide occupancy rate of 4.20 residents per unit, this would result in a potential population increase of 2,016 people.

The proposed development is anticipated by, and would be consistent with, the Livingston General Plan, which already designates the project site for high-density residential development. The increase in residents resulting from the project would be consistent with the population growth anticipated by the Livingston General Plan.

The project would provide employment opportunities in Livingston during its construction, which may attract people from outside the Livingston area. However, these opportunities would be limited in number and can be expected to be met from the existing population in the Livingston area. Project impacts on population growth would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact LUP-7: Displacement of Housing and People

The project site is currently vacant and has no structures, residential or otherwise. Therefore, the project would not displace housing or people. The Housing Element of the General Plan and the 2014-2023 Regional Housing Needs Assessment have identified a lack of available housing throughout Merced County, including Livingston (City of Livingston 2016a). The high number of persons per household within the city may indicate possible overcrowding from a lack of available housing, which the project would provide. The project would have no impact on displacement of people or housing, and it has the potential for a beneficial impact on housing supply.

Level of Significance: No impact

Mitigation Measures: None required

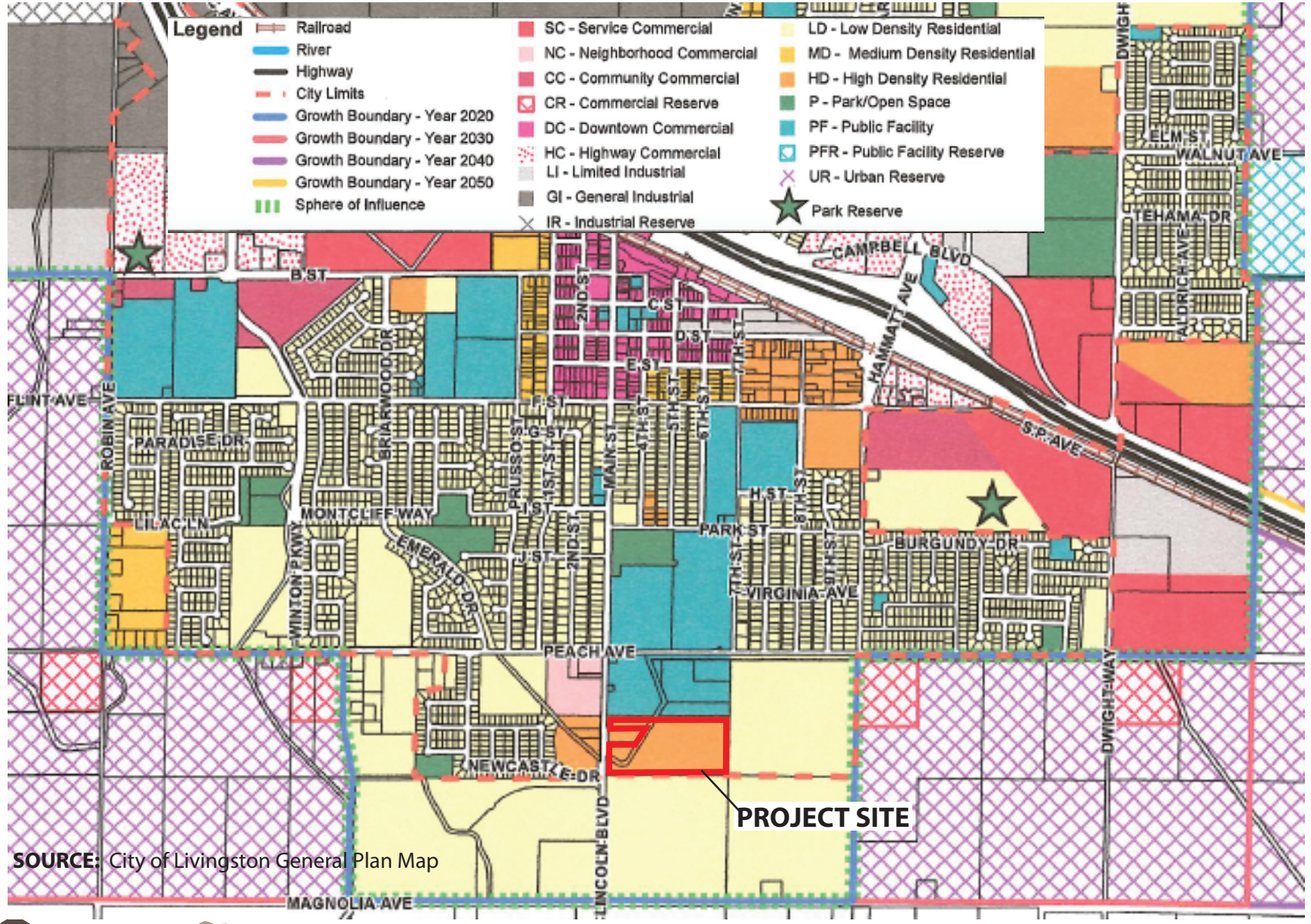
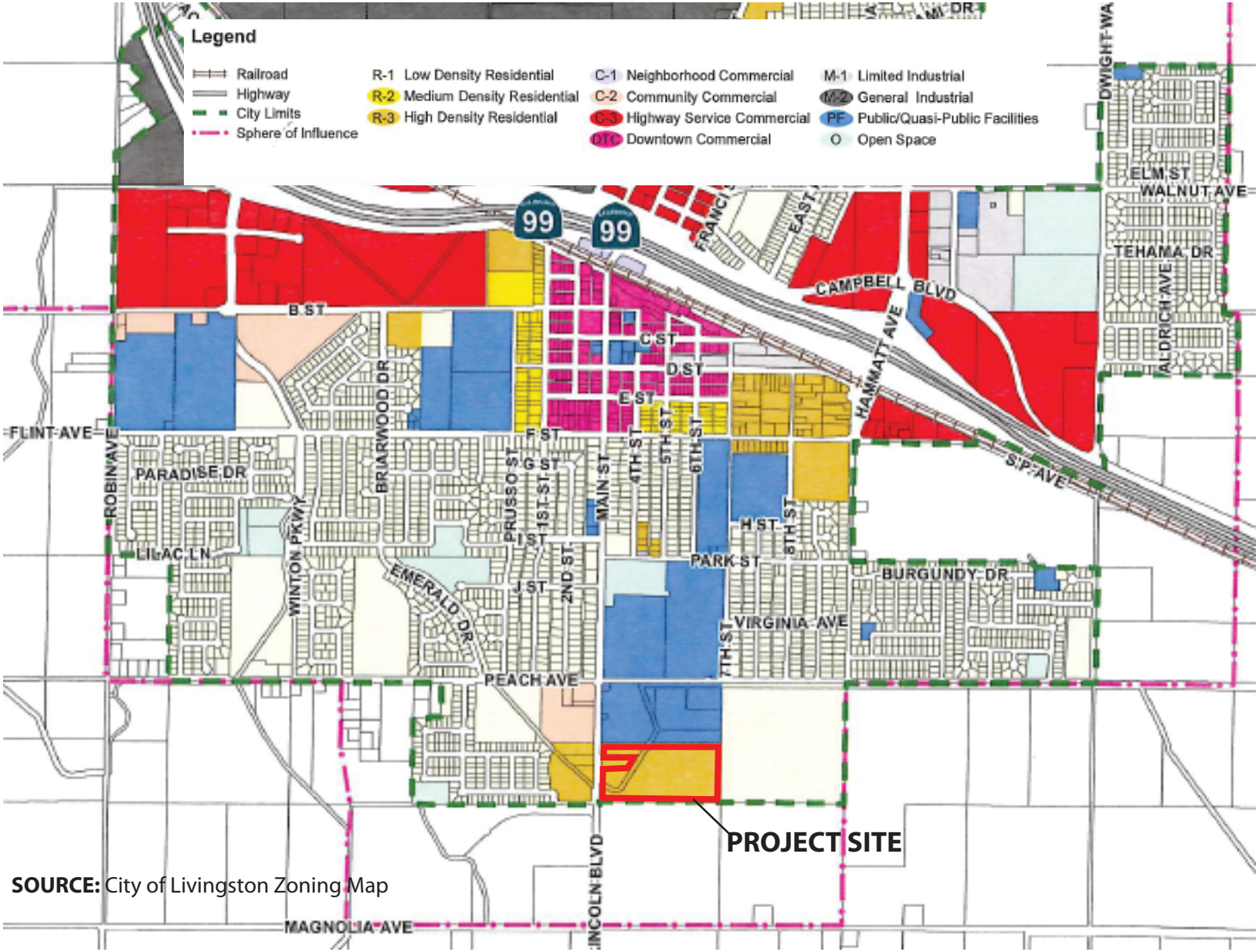


Figure 12-1
EXISTING GENERAL PLAN DESIGNATIONS



SOURCE: City of Livingston Zoning Map

Figure 12-2
EXISTING CITY ZONING

13.0 NOISE

ENVIRONMENTAL SETTING

Noise Background

Noise is "unwanted sound," or sound that is annoying and/or harmful due to its loudness, pitch, or duration. Adverse effects of noise include annoyance, sleep and speech interference, and hearing loss. Noise analysis criteria are related to both annoyance and environmental health. There are two types of noise impacts: exposure of existing sensitive receptors to noise levels that exceed adopted standards, and placement of new sensitive receptors in areas where they would be exposed to noise levels exceeding adopted standards. Exposure of existing receptors to elevated noise levels can result from construction activities near existing residences, increases in traffic, or added noise sources.

To provide a manageable way to measure sound, the decibel (dB) scale was devised. The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. Within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by the A-weighting network. There is a strong correlation between A-weighted decibels (dBA) and the way the human ear perceives noise.

Community noise is commonly described in terms of the "ambient" noise level, defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the equivalent sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} shows very good correlation with community response to noise and is the foundation for other composite noise descriptors such as the Day-Night Average Level (L_{dn}). The L_{dn} is based upon the average hourly L_{eq} over a 24-hour day, with a +10 dB weighting applied to noise during the hours between 10:00 p.m. and 7:00 a.m. to account for greater noise sensitivity by people during those times.

Noise levels in developed areas are primarily a function of human, and especially mechanical, activity, and the intensity, duration, and frequency of that activity. Noise levels also vary by distance from a noise source. The noise level at a given distance from a source can be estimated using the Inverse Square Law of Noise Propagation. Essentially, this law states that noise decreases by 6 dBA with every doubling of distance from a source (Harris 1991). Thus, the noise level 50 feet from a source decreases by 6 dBA at 100 feet, and by an additional 6 dBA at 200 feet.

Existing Noise Conditions

The noise environment at the project site and vicinity is primarily related to traffic noise on Main Street, periodic activities at the Livingston High School playing fields, and intermittent agricultural operations in nearby fields. Traffic noise levels along Main Street are minimal, given the limited development and associated traffic in the southern portion of the City. Noise from the Livingston High School playing fields occurs when events are held at the facility; no noise comes from this facility at other times. Noise from agricultural operations are seasonal; generally, no substantial noise is generated outside planting and harvesting times. The Yagi Brothers Produce facility south of the project site is not a significant noise contributor; noise is primarily generated by truck traffic during the agricultural product processing season.

As part of preparation of the Noise Element of the Livingston General Plan, noise measurements were taken at three residential locations, including one northwest of the project site. Ambient noise at all three locations ranged from 50 to 55 dB L_{dn}, and the site observations during preparation of this EIR are consistent with these levels. No noise levels above this range were identified at the project site or vicinity (City of Livingston 1999a).

Groundborne Vibration

Groundborne vibration is not a common environmental problem. It is typically associated with transportation facilities, although it is unusual for vibration from sources such as buses and trucks to be perceptible, except in locations very close to major roads. Some common sources of groundborne vibration are heavy trucks, trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment. The effects of groundborne vibration include felt movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings (FTA 2006).

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second (in/sec). Standards pertaining to annoyance and damage to structures have been developed for vibration levels defined in terms of peak particle velocities. Caltrans has prescribed a methodology for evaluating groundborne vibration impacts from construction related to potential damage to structures and human annoyance, based on transient sources (e.g., blasting, drop balls) or continuous/frequent intermittent sources (e.g., impact and vibratory pile drivers, vibratory compaction equipment). Table 13-1 presents thresholds for impacts related to groundborne vibration, based on the Caltrans methodology.

TABLE 13-1
GROUNDBORNE VIBRATION THRESHOLDS

Guidelines for:	Maximum Peak Particle Velocity (in/sec)	
	Transient Sources	**Continuous/Frequent Intermittent Sources**
Structure and Condition		
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Human Response		
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Severe	2.0	0.4

Source: Caltrans 2013.

REGULATORY FRAMEWORK

Livingston General Plan Noise Element

The Noise Element is one of the required elements of a General Plan. The Noise Element of the Livingston General Plan sets forth objectives and policies that are intended to protect City citizens from the harmful and annoying effects of exposure to excessive noise, to prevent noise-producing uses from encroaching upon existing or planned noise-sensitive uses, and to emphasize the reduction of noise impacts through careful site planning and project design.

Table 13-2 indicates the range of exterior noise levels for new development that are compatible with nearby transportation noise sources, as set forth in the Noise Element. Noise levels of up to 65 dB are considered acceptable for residential land uses, while noise levels 65-75 dB are considered "conditionally acceptable" if mitigation is implemented. Noise levels above 75 dB are "conditionally unacceptable". Proposed residential development in an area with noise levels above 75 dB may be infeasible and

should be permitted only after careful study and implementation of mitigation as needed to satisfy the policies of the Noise Element.

TABLE 13-2
LAND USE COMPATIBILITY FOR NEW DEVELOPMENT
NEAR TRANSPORTATION NOISE SOURCES

Land Use Category	Noise Levels (dB L_{dn})					
	<55	**56-60**	**61-65**	**66-70**	**71-75**	**>75**
Residential						
Hotels and Motels						
Churches, Meeting Halls						
Schools (preschool to secondary), Colleges and Universities, Specialized Education and Training, Libraries and Museums						

Acceptable. Specified land use is acceptable.

Conditionally Acceptable. Use should be permitted only after casual study and inclusion of mitigation as needed to satisfy policies of Noise Element.

Conditionally Unacceptable. Use may be infeasible. Use should be permitted only after careful study and inclusion of mitigation as needed to satisfy policies of Noise Element.

Source: City of Livingston 1999a.

The Noise Element also establishes more specific noise standards applicable to projects. Residences shall not be exposed to noise from transportation sources at levels that exceed 65 dB L_{dn} in outdoor activity areas of these facilities. Interior noise levels within these facilities shall not exceed 45 dB L_{dn}. Policy 3 of the Noise Element states that new development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources that exceed these noise levels. However, Policy 1b states that, where noise levels are conditionally acceptable, new development shall be allowed only after noise mitigation has been incorporated in the project to reduce noise exposure to the specified levels.

Table 13-3 specifies the maximum allowable noise exposure from stationary noise sources, as determined in outdoor activity areas. Policy 5 of the Noise Element states that new development of noise-sensitive land uses shall not be permitted in areas where the noise due to existing stationary noise sources will exceed the noise level standards of Table 13-3.

TABLE 13-3
MAXIMUM ALLOWABLE NOISE EXPOSURE - STATIONARY NOISE SOURCES

Noise Level Descriptor	Outdoor Activity Areas (dB)	
	Day (7:00 a.m. to 10:00 p.m.)	**Night (10:00 p.m. to 7:00 a.m.)**
Hourly L_{eq}	55	50
Maximum level	75	65

Source: City of Livingston 1999a.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to the recently updated Appendix G of the CEQA Guidelines, a project may have a significant impact related to noise if it would 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,
- Generation of excessive groundborne vibration or groundborne noise levels, or
- For a project located within the vicinity of a private airstrip or an airport land use plan, or within two miles of a public or public use airport if no plan has been adopted, expose people residing or working in the project area to excessive noise levels.

Impact NOISE-1: Exposure to Noise Levels in Excess of Standards – Project Operations

The project would result in a permanent increase in ambient noise levels over existing conditions, as the site is currently vacant. Noise would be generated mainly by traffic to and from the apartment complex. Most of the proposed apartment buildings would be set back at least 250 feet from Main Street, so exposure to street noise would be minimized. However, three buildings would be approximately 50 feet from Main Street, so these buildings could potentially be exposed to elevated noise levels.

The noise levels at these buildings near Main Street were estimated using the Calveno Highway Traffic Noise Prediction Model developed by Caltrans. The model generates noise contours based on daily traffic, distances from the edge of the right-of-way, and traffic speeds. For this project, the estimated daily traffic with the project based on the project traffic study (see Appendix F) and a range of speed limits from 25 to 45 miles per

hour were used. The model results, available in Appendix E, indicated that these three buildings would be exposed to traffic noise levels above 60 dB with traffic speeds of automobiles and medium trucks at 35 miles per hour, but not at 65 dB, which is the maximum exterior noise level exposure allowed for residences under the Livingston General Plan. Residential development west of the project site would be beyond the 60-dB contour, so it would not be affected significantly by project traffic noise.

While exterior noise would be below the maximum allowable noise level for onsite residences, it is possible that interior noise levels could exceed the maximum allowable level of 45 dB. Mitigation presented below would require review of site plan to determine if the interior noise standard is met and would require measures to be recommended and implemented to reduce interior noise levels if necessary. Implementation of this mitigation measure would reduce potential traffic noise impacts to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

NOISE-1: The building plans for any buildings located near the western boundary of the project site shall be reviewed by a qualified acoustical professional to ensure that interior building noise levels comply with the City's interior noise level standard of 45 dB L_{dn}. If it is determined that a building does not comply with this standard, then the acoustical professional shall recommend measures that would bring the building into compliance, which the project applicant shall incorporate into the site design. Measures may include, but are not limited to, the provision of air conditioning or other suitable mechanical ventilation so that residents may close windows and doors to reduce noise levels.

Significance After Mitigation: Less than significant

Impact NOISE-2: Exposure to Noise Levels in Excess of Standards – Project Construction

Construction of the proposed project would involve temporary increases in ambient noise levels. Activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet, as indicated in Table 13-4. Noise would also be generated during the construction phase by increased truck traffic on area roadways, associated with transport of heavy materials and equipment to and from construction sites.

TABLE 13-4
CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dB at 50 feet
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: FHWA 2006.

Although project construction noise would cease once construction work is completed, this is considered a potentially significant short-term impact, as the project site is near existing residential development, across Main Street. Temporary noise impacts resulting from project construction shall be minimized by implementation of mitigation measures, specified below, that would restrict construction days and hours and would require the use of mufflers on construction equipment. The mitigation measures would reduce construction noise to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

NOISE-2: Project construction shall be restricted to the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday. No construction shall occur on Sundays or national holidays without prior approval from the City Planning Director.

NOISE-3: All equipment used on the construction site during all project phases shall be fitted with mufflers in accordance with manufacturers' specifications. Mufflers shall be installed on the equipment at all times on the construction site.

Significance After Mitigation: Less than significant

Impact NOISE-3: Groundborne Vibrations

As noted, some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment. The project would not involve, or be in proximity to, any of these potential sources. The project would not be exposed to groundborne vibrations.

Equipment used in project construction activities could generate groundborne vibrations that may affect nearby land uses, mainly the residence adjacent to and surrounded by the project site. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures. Noise from the equipment typically overshadows any meaningful ground vibration effects on people (Caltrans 2013). Using the methodology prescribed by Caltrans, the ground vibration produced by a large bulldozer would produce a maximum peak particle velocity of approximately 0.073 in/sec at the residence. The predicted peak particle velocity is substantially below both the maximum peak particle velocity of 0.5 in/sec for older residential buildings and the "Distinctly Perceptible" threshold peak particle velocity of 0.25 in/sec. Project impacts related to groundborne vibrations would therefore be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact NOISE-4: Airport and Airstrip Noise

As discussed in Chapter 10.0, Hazards and Hazardous Materials, there are no airports in the Livingston area. There are no private airstrips in the project vicinity. The project would have no impact related to airport or airstrip noise.

Level of Significance: No impact

Mitigation Measures: None required

14.0 PUBLIC SERVICES AND RECREATION

This section addresses the potential direct and indirect environmental effects of the proposed project on providers of the following public services:

- Fire protection
- Police protection
- School
- Parks and recreation
- Other public services (e.g., libraries, hospitals, courthouses)

Chapter 16.0 Utilities and Energy, describes public utilities available in the area, along with utility services provided by private companies.

ENVIRONMENTAL SETTING

Fire Protection

Fire protection, rescue, and emergency medical response service are provided by the Livingston Fire Department. The Livingston Fire Department is managed through a contractual agreement with Merced County. The agreement consists of staffing for one Cal Fire full-time position and 15 volunteer members 24 hours a day, 7 days a week in the City (City of Livingston 2018). The County Fire Department maintains Station 96 on 1430 C Street in downtown Livingston, which has one Type 2 fire engine, and one Type 1 water tender (Merced County Fire Department 2019). In 2016, Livingston maintained a ratio of slightly greater than one volunteer per 1,000 residents (City of Livingston 2018).

Over the last few years, emergency calls have been steadily increasing. In 2016, the Fire Department responded to 1,581 calls for services. In 2015, the Fire Department responded to 1,468 calls for services. In 2014, the Fire Department responded to 1,214 calls for services. Emergency calls in 2016 rose approximately 10 percent and are projected to grow in the upcoming years. Medical emergencies make up approximately 54 percent of the call volume (City of Livingston 2018).

In a January 2019 comment on a proposed commercial development in Livingston, the Fire Department stated that the project and additional ongoing development in the City would result in significant impacts on the Department, including increases in emergency call response times as well as the need for additional staffing and equipment, which the Fire Department considers inadequate. At the time, the Fire Department stated that the City's growth had outpaced the Department's size and capabilities.

The City addressed increasing fire protection demands in its adopted Municipal Services Review, acknowledging that additional and fire stations may be required (City of Livingston 2018). To respond to this need, the City adopted its *2018 Consolidated Community Facility District*. New development projects are required to annex into the District as a condition of approval. Among other things, District funding will provide for additional fire control equipment and a new fire station (Hatch pers. comm.).

Police Protection

Police protection services are provided by the Livingston Police Department. It is the largest General Fund department in the City, about 57 percent of the FY 2016/17 General Fund expenditure budget. The Police Department employed 20 full-time sworn and professional staff personnel as of February 2018, with one additional position anticipated to be filled. In 2005, the City adopted a policy to maintain a ratio of 1.5 officers per 1,000 residents (City of Livingston 2018).

In 2012, the City of Livingston entered into an agreement to provide dispatch services to the City of Gustine. The service required City staff to answer 9-1-1 calls and business lines after hours. In addition to providing services to the City of Gustine, over the last decade there have been two developments in the south portion of the City and other recent commercial developments that have impacted the need for services (City of Livingston 2018).

The Police Department operates from its station at 1446 C Street. The City has not updated or expanded the police facility, but there is a plan to add a second story to the facility. The funding source would need to be identified. While the City has identified department needs for the next six years, there is no updated master plan or adopted capital improvement plan (City of Livingston 2018).

Schools

Elementary and middle school services (kindergarten to 8th grade) are provided by the Livingston Union School District (LUSD). As of the 2018-19 school year, total enrollment in the LUSD was 2,464 students (EdData 2020). Livingston Middle School, the only middle school in the LUSD, is located at 101 F Street approximately 1.2 miles northwest of the project site. The school had an enrollment of 830 students as of the 2018-19 school year. The closest LUSD elementary school is Campus Park Elementary School, located at 1845 H Street approximately 0.5 miles northeast from the site. Enrollment at this school during the 2018-19 school year was 454 students. Total enrollment in the LUSD in 2018-19 was 2,464 (EdData 2020).

High school services are provided by the Merced Union High School District (MUHSD). Livingston High School, part of the MUHSD and the only public high school in the City, is located on 1617 Main Street, north of the project site. During the 2018-19 school year, enrollment at Livingston High School was 1,243 students (EdData 2020).

Parks and Recreational Services

The Livingston Recreation Department manages parks and recreation programs in the City. The City manages six parks and recreational facilities. Amenities available at these facilities include picnic areas, barbeques, playgrounds, baseball and soccer fields, a volleyball area, and a stage. The City of Livingston Park and Recreation Master Plan states that the City currently provides 3.4 acres of developed park land per 1,000 residents and 5.4 acres of undeveloped park land per 1,000 residents (City of Livingston 2007b).

The nearest recreational facility to the project site is the Livingston High School playing fields, adjacent to and north of the site. This area has four baseball fields, a soccer field, picnic tables, and restrooms.

Outside the City, McConnell State Recreation Area is located on the Merced River, approximately 2.5 miles north of the project site. This facility offers picnic and camping areas. Yosemite National Park is approximately 72 miles east-northeast of the project site.

Other Public Services and Facilities

Other public facilities include the Livingston branch of the Merced County Library, located on 1212 Main Street. The Livingston Historical Museum is located at 604 Main Street and is open to the public at limited hours. The City's Public Works Department has its corporation yard at 2238 Walnut Avenue in northern Livingston.

REGULATORY FRAMEWORK

City of Livingston Mitigation Fees

The City charges mitigation fees on new development for fire protection and police protection services. These fees are used for the construction of fire and police facilities necessary to meet the future demands on services generated by new development. For multifamily residential development, the City charges $366 per unit in fire protection fees, and $0.56 per square foot in police protection fees. The City also charges mitigation fees for municipal facilities. For residential development, this fee is $1.87 per square foot.

SB 50

SB 50, enacted in 1998, created the present School Facility Program, which is a State/local match program for the funding of new kindergarten-12th grade school facilities and the modernization of existing facilities. SB 50 also created several statutory changes in the area of development fees for school facilities, the most notable effect being the pre-emption of school mitigation by the State. Satisfaction of the development fee process

outlined in the statute is deemed to be "full and complete mitigation" of the impacts upon school facilities by new development, regardless of the identified level of impact, including mitigation for CEQA purposes.

SB 50 established a base fee for both residential and commercial/industrial development. This base has been adjusted for inflation every two years. School districts must establish the nexus between the development and the need for school facilities via a fee justification study to impose the biannual increase. Fees are levied and collected at the time the building permit is issued. District certification of the payment of the applicable fee is required before a city or county can issue the building permit.

Both the LUSD and the MUSHD collect developer fees for industrial, commercial, and residential projects in accordance with State law. Residential developer fees for both LUSD and MUHSD are $4.08 per square foot, although MUHSD must give two-thirds of its collected fees to the feeder elementary school districts (MUHSD 2020).

Park and Recreation Master Plan

In 2007, the City adopted the Livingston Park and Recreation Master Plan. The Master plan identifies and evaluates existing park and recreation areas; assesses the need for additional park land, open space, and recreation facilities; establishes criteria and standards for site selection, design and management; and recommends an approach to financing and implementation. Based on recommended park land ratios set forth in the Master Plan, the City currently does not have adequate park land to accommodate City residents (City of Livingston 2007b).

To assist in the acquisition and development of City parks, the City requires dedication of parkland or payment of in-lieu fees on all new residential development. For new residential development in the R-3 zone, the City charges an in-lieu fee of $332 per unit.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on the environment related to public services if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or generate a 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:

- Fire protection,
- Police protection,

- Schools,
- Parks, or
- Other public facilities.

For recreational facilities and services, CEQA Guidelines Appendix G indicates that a project may have a significant impact on the environment if it would:

- 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, or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact PSR-1: Fire Protection

As noted, to accommodate new growth or annexations, the City has identified a possible need for the construction of additional fire stations. Station 96 is in a developed area with existing utility infrastructure. Because of the existing development, available area for expansion may be limited and may require removal of structures and/or pavement, which may involve potential environmental impacts. Another option would be the construction of a new fire station at another site. The City is in the process of identifying a location for a new fire station (City of Livingston 2018). Both options would be subject to CEQA review for potential environmental impacts, if required. Neither option would necessarily be triggered by proposed project development, but the project would place additional demands on fire protection service.

Buildings constructed as part of the project would be required to comply with the provisions of the 2013 California Fire Code adopted by the City (Livingston Municipal Code Section Title 7, Chapter 2). The Fire Code contain provisions designed to improve fire safety in structures, including installation of sprinkler systems, alarm systems, and portable fire extinguishers, along with requirements for hydrants and fire flows. The project also would be subject to the City's adopted Building and Electrical Codes with their provisions applicable to fire safety, including the installation of smoke detectors and sprinkler systems. Entryways would be constructed to City standards, which consider emergency vehicle accessibility. Compliance with these requirements would minimize the risk of fires occurring in new development proposed by the project.

The proposed project would contribute to the identified need for new fire protection facilities and equipment. These needs will be met with new development fees collected through the City's *2018 Consolidated Community Facilities District*. Fees raised through the District will be used to meet costs of needed Fire Department and other City facilities that may be required throughout the City. Payment of District fees, along with compliance with the applicable codes and City standards, would reduce project impacts on fire protection services to a level that would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PSR-2: Police Protection

The project would generate a demand for police protection services. The General Plan EIR did not identify any significant impacts of future development under the General Plan on police protection services (City of Livingston 1999b). As discussed in Chapter 12.0, Land Use and Population, the project is not expected to affect the City's population in a manner unplanned by the City. Because of this, the project is not expected to affect the officer/population ratio such that new officers would need to be hired. As noted, the Livingston Police Department has plans to add a second story to its existing facility, which would accommodate additional personnel as needed.

Future development is required by ordinance to pay mitigation fees to the City for future construction of Police Department facilities that may be required. With payment of mitigation fees, project impacts related to police protection services would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PSR-3: Schools

The proposed 480-unit apartment complex is likely to house students who would attend both LUSD and MUHSD schools. Based on a student generation rate of 0.357 elementary students and 0.216 middle school students per unit, both used in the LUSD Facilities Master Plan, the project would generate approximately 171 elementary school students and 104 middle school students (LUSD 2016). Additionally, based on a student generation rate of 0.072 students per unit used in a MUHSD fee justification study, the project would generate approximately 35 high school students (MUHSD 2020).

The LUSD estimated that it had permanent classroom capacity of 2,159 students, with an additional 596-student capacity in portable classrooms, for a total capacity of 2,775 students (LUSD 2016). Based on existing student enrollment, the LUSD has excess capacity of 311 students. Given these conditions, it is expected that the LUSD can accommodate the students that would be generated by the project without expansion of capacity.

As of the 2019-20 school year, the MUHSD had a total capacity that exceeded current enrollment by 987 students; however, this excess capacity would be occupied by students generated by housing units subject to mitigation agreements (MUHSD 2020). Nevertheless, it appears that the MUHSD could accommodate the additional high school students that would be generated by the project.

The project would pay required developer fees to both LUSD and MUHSD. Under the provisions of SB 50, the payment of impact fees is considered adequate mitigation for CEQA purposes. Project impacts on schools are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PSR-4: Parks and Recreational Facilities

As noted in Chapter 12.0, Land Use and Population, the project is expected to generate an occupancy of 2,016 residents. This is consistent with the population growth anticipated in the Livingston General Plan and with the Parks and Recreation Master Plan, which anticipated 1,000 additional housing units from the date of plan preparation. There were 2,449 housing units at the time of plan adoption (City of Livingston 2007b).

The residents of the proposed project would generate a demand for recreational facilities and services. However, the existing parks and recreational facilities are expected to accommodate the additional residents without causing a substantial physical deterioration of these facilities. In addition, the project applicant would be required to pay the associated in-lieu fees for future park improvements which would offset any potential impacts from increased users.

The project proposes to construct an onsite community building with a pool. Both facilities would be accessible to apartment residents. This would alleviate the impact on off-site facilities caused by the increase in localized population. Project impacts on recreational facilities are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PSR-5: Other Public Facilities

The addition of the units could result in an increase in residents who may visit libraries and use other public facilities within the City. As discussed in Chapter 12.0, Land Use and Population, the population increase resulting from the project is not expected to be significant. Therefore, additional demands on other public facilities such as libraries are expected to be incremental, and no new or expanded public facilities would be required. Project impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

15.0 TRANSPORTATION

Information for this chapter primarily comes from a traffic study conducted for the project by KD Anderson and Associates, Inc. Appendix F contains the traffic study, which describes existing traffic conditions in the vicinity of the project site and analyzes conditions with implementation of the project, both under Existing Plus Project and Cumulative conditions. The project's proportionate share of transportation improvement needs generated by development is addressed in a separate memorandum also included in Appendix F. Cumulative traffic conditions and impacts are discussed in Chapter 17.0, Cumulative Impacts.

The traffic study evaluated project impacts on specific intersections based on the Level of Service (LOS) metric. The State of California has recently added Section 15064.3 to the CEQA Guidelines, which states that vehicle miles traveled (VMT) is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. The following impact analysis conforms to this guidance by incorporating VMT analysis. Capacity-related concerns are nonetheless addressed, not as potentially significant effects on the environment, but rather as to consistency with City LOS standards.

ENVIRONMENTAL SETTING

Streets and Intersections

Various state highways, City of Livingston streets, and Merced County roads would be used to access the project site. The project site is served by roads that connect the site with SR 99, the City of Livingston, and adjoining rural communities in Merced County. Important facilities in the Livingston area that were analyzed in the traffic study include:

- *State Route (SR) 99* is a north-south transportation corridor through Merced County. SR 99 is a controlled-access freeway with a six-lane width southeast of Hammatt Avenue and a four-lane width northwest of Hammatt Avenue. Access from the project site to SR 99 is primarily provided via the Hammatt Avenue interchange, which is approximately one mile northeast of the project site. The most recent traffic count data indicate that SR 99 carries an average annual daily traffic volume of 60,000 to 62,000 vehicles per day and peak hour volume of 5,500 to 5,800 in the vicinity of the project site.

- *Hammatt Avenue* is designated an arterial street in the Circulation Element of the Livingston General Plan. The Hammatt Avenue interchange is one of two interchanges providing the Livingston area with access to SR 99. Within the traffic study area, Hammatt Avenue is a north-south roadway with a two-lane width. The northern terminus of Hammatt Avenue is at Olive Avenue at the northern City limits, and the southern terminus is at Peach Avenue. Count data

collected for this traffic impact study show the average traffic volume on Hammatt Avenue south of SR 99 is 9,222 vehicles per day.

- *Main Street* is designated an arterial street in the Circulation Element of the Livingston General Plan. It is a north-south roadway adjacent to and west of the project site, extending from northern Livingston to the southern City limits, after which it becomes Lincoln Boulevard. Within the traffic study area, Main Street has a two-lane width. Main Street has a grade-separated overcrossing at SR 99, but does not have direct access to SR 99. Count data show the average traffic volume on Main Street south of Peach Avenue is 3,088 vehicles per day.

- *Peach Avenue* is designated an arterial street in the Circulation Element of the Livingston General Plan. Within the traffic study area, Peach Avenue is an east-west roadway with a two-lane width. The Livingston High School playing fields, southeast of the intersection of Main Street and Peach Avenue, separates the project site from Peach Avenue. Count data collected for this traffic impact study show the average traffic volume on Peach Avenue between Main Street and Hammatt Avenue is 4,023 vehicles per day.

The quality of flow of traffic is typically governed by the operation of intersections. The operation of the following five existing intersections was analyzed for this study:

- Hammatt Avenue and SR 99 Northbound Ramps
- Hammatt Avenue and SR 99 Southbound Ramps
- Hammatt Avenue and F Street
- Hammatt Avenue and Peach Avenue
- Main Street and Peach Avenue

Existing Traffic Conditions

To quantify existing traffic conditions, a.m. and p.m. peak hour traffic count data were collected at the existing study area intersections (Figure 15-1). Traffic volumes for the highest one-hour periods within the two-hour a.m. and two-hour p.m. data collection periods were used in the traffic study.

To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without project-generated traffic, LOS was determined at the study intersections. LOS is a quantitative measure of traffic operating conditions using a letter grade A through F, with each grade representing progressively worsening traffic conditions. The City of Livingston designates LOS C as its minimum acceptable standard, while the Merced County General Plan establishes LOS C as the minimum acceptable condition in rural portions of the County and LOS D in urban portions.

Table 15-1 shows the LOS under Existing Conditions at the five existing study intersections. As shown in Table 15-1, four of the five existing study intersections operate at acceptable LOS C or better during both the a.m. and p.m. peak hours. The intersection of Hammatt Avenue and SR 99 Northbound Ramps operates at LOS E

during the a.m. peak hour and LOS D during the p.m. peak hour. LOS E and D are considered unacceptable.

TABLE 15-1
LOS AT STUDY INTERSECTIONS – EXISTING CONDITIONS

Intersection	Traffic Control	A.M. Peak		P.M. Peak	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave/SR 99 Northbound Ramps	AWSC	36.5	**E**	26.1	**D**
Hammatt Ave/SR 99 Southbound Ramps	AWSC	23.3	C	19.8	C
Hammatt Ave/F Street	AWSC	14.4	B	14.2	B
Hammatt Ave/Peach Ave	Unsig	10.6	B	9.9	A
Main Street/Peach Ave	AWSC	12.3	B	10.5	B

Notes: **Bold** values indicate unacceptable LOS.
AWSC – all-way stop control; Unsig – unsignalized
Source: KD Anderson 2020.

Public Transportation

Public transportation services in Livingston are provided by The Bus, overseen by the Transit Joint Powers Authority for Merced County and managed through MCAG. The Bus operates the Livingston Commuter route (L Line) that connects Livingston with Merced via Winton and Atwater. The Turlock Commuter route (T Line) between Merced and Turlock in Stanislaus County also passes through Livingston. Neither line passes by the project site, although the L line has stops along the north side of Livingston High School north of the project site. However, MCAG has proposed to extend the L line route in Livingston down Main Street to Peach Avenue (MCAG 2017). Dial-A-Ride service is available for senior citizens, the handicapped, or those without a regularly scheduled fixed route bus operating within one mile of their residence.

Other Transportation Services

The City of Livingston has limited bicycle facilities. Near the project site, Class II bike lanes (i.e., striped lanes on roads) are present on both sides of Peach Avenue between Main Street and 7th Street. The most recent Regional Transportation Plan (RTP) adopted by MCAG, described later in this chapter, indicates a Class II bike lane is proposed along Main Street, including the segment adjacent to the project site (MCAG 2018a).

Near the project site, sidewalks have been constructed along the east side of Main Street between Peach Avenue and the northwest corner of the project site, and along a 175-foot

portion of the west side of Main Street north of Newcastle Drive. North of the project site, crosswalks are present across all four legs of the intersection of Main Street and Peach Avenue. Sidewalks are present on both sides of Main Street as far north as Swan Street, north of SR 99. East of the project site, sidewalks are present on the north side of Peach Avenue to Dwight Way. On the south side of Peach Avenue, sidewalks are present between Main Street and 7th Street; sidewalks are present on the north side of Peach Avenue to Winton Parkway.

REGULATORY FRAMEWORK

CEQA Guidelines Section 15064.3

The State of California has recently added Section 15064.3 to the CEQA Guidelines, which is meant to incorporate SB 743 into CEQA analysis. SB 743 was enacted in 2013 with the intent to balance congestion management needs and the mitigation of the environmental impacts of traffic with statewide GHG emission reduction goals, mainly by developing an alternative mechanism for evaluating transportation impacts. Section 15064.3 states that VMT is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. The VMT metric measures the total miles traveled by vehicles as a result of a project. VMT accounts for the total environmental impact of transportation associated with a project, including use of non-vehicle travel modes. Section 15064.3(b) sets forth the criteria for analyzing transportation impacts using the preferred VMT metric:

- VMT exceeding an applicable threshold of significance may indicate a significant impact. The City's General Plan has a threshold of significance related to VMT, which is discussed later in this chapter.

- Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing "high-quality transit corridor" should be presumed to cause a less-than-significant transportation impact. There are no transit stops or transit corridors near the project site.

- Projects that decrease VMT in the project area compared to existing conditions should be presumed to cause a less-than-significant transportation impact. Because of proposed development, the project is expected to increase VMT in the project area.

While a quantitative analysis of VMT is preferred, a qualitative analysis may be used if existing models or methods are not available to estimate VMT for the project being considered. The City of Livingston currently does not have traffic impact standards based on VMT.

The Governor's Office of Planning and Research (OPR) has issued a Technical Advisory on evaluating transportation impacts using VMT. The Technical Advisory recommends several approaches in developing screening thresholds to determine significance of the

transportation impacts of projects. One recommendation specific to residential projects is that a proposed project exceeding a level of 15% below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita (OPR 2018).

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

MCAG adopted the current version of its RTP in 2018. The RTP seeks to ensure that the Merced County transportation system will continue to operate efficiently over the next 25 years with sufficient capacity to meet demand and with mobility options available for all of Merced County's residents. The RTP focuses on regional transportation infrastructure needs, which includes roadways, railways, airports, and pedestrian and bicycle facilities. Transportation improvements proposed in Livingston that are part of the RTP include corridor improvements on Main Street from Swan Street to Peach Avenue, and roadway rehabilitation and bike/pedestrian improvements at various locations (MCAG 2018b).

Part of the RTP is the SCS, which must demonstrate an approach to how land use development and transportation can work together to meet GHG emission reduction targets for cars and light trucks. Chapter 9.0, Greenhouse Gas Emissions, discusses the SCS in more detail.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to transportation if it would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities,
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b),
- Substantially increase safety hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or
- Result in inadequate emergency access.

Impact TRANS-1: Conflict with Traffic Plans, Ordinances, and Policies

Development of the project would generate new vehicle trips and potentially affect traffic operations at nearby intersections. The traffic study analyzed potential traffic impacts on the five existing study intersections plus one intersection created as a result of the project (Figure 15-2). The analysis was based on anticipated vehicle trips generated by the

project and how these trips would be distributed on the local roadway network. The traffic study in Appendix F describes its analysis methodology in more detail.

Table 15-2 shows the LOS under Existing Plus Project Conditions at the six study intersections. As shown in Table 15-2, three of the six existing study intersections would operate at a LOS considered unacceptable during the a.m. and/or p.m. peak hours. Given recent guidance by the State, LOS is no longer a metric that may be used to evaluate CEQA environmental impacts of traffic. Nevertheless, improvements recommended by the traffic study are provided below, as they would avoid potentially significant environmental impacts associated increased vehicle delay, such as increased air pollutant and GHG emissions at these intersections.

TABLE 15-2
LOS AT STUDY INTERSECTIONS – EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control	A.M. Peak		P.M. Peak	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave/SR 99 Northbound Ramps	AWSC	42.3	**E**	38.1	**E**
Hammatt Ave/SR 99 Southbound Ramps	AWSC	50.7	**F**	32.3	**D**
Hammatt Ave/F Street	AWSC	19.7	C	26.7	**D**
Hammatt Ave/Peach Ave	Unsig	11.5	B	11.1	B
Main Street/Peach Ave	AWSC	14.3	B	12.4	B
Main Street/Project Site Access	Unsig	10.3	B	10.0	A

Notes: **Bold** values indicate unacceptable LOS.
AWSC – all-way stop control; Unsig – unsignalized
Source: KD Anderson 2020.

Level of Significance: Not Applicable

Recommended Street Improvements:

RSI-1: The project applicant shall pay a fair share of the cost of installing traffic signals at the intersections of Hammatt Avenue and State Route 99 Northbound Ramps, and Hammatt Avenue and SR 99 Southbound Ramps. Fair-share costs shall be determined by the City Engineer.

RSI-2: The project applicant shall pay a fair share of the cost of splitting the single-lane southbound approach at the intersection of Hammatt Avenue and F Street into a combined through/left-turn lane and an

exclusive southbound-to-westbound right-turn lane. Fair-share costs shall be determined by the City Engineer.

Significance after Mitigation: Not Applicable

Impact TRANS-2: Conflicts with Non-Motor Vehicle Transportation Plans

The project would result in an increase in demand for public transit service. The frequency of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that The Bus routes can accommodate the additional passengers the project would generate. This would be consistent with the goals of the RTP, which encourage further use of public transit. Moreover, as noted, the L line of The Bus is proposed to be extended down Main Street to Peach Avenue, which would potentially place a bus stop closer to the project site. This would encourage more use of The Bus by project residents. Impacts on public transit are considered less than significant.

The project would result in an increase in demand for bicycle and pedestrian facilities. As noted in Chapter 3.0, Project Description, the project includes construction of sidewalks and bike lanes on the east side of Main Street along the length of the project site frontage, as well as a bike lane on a portion of the west side of Main Street. This would be consistent with the goals of the RTP. Project impacts on bicycle and pedestrian facilities would be less than significant and would be beneficial.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact TRANS-3: Consistency with CEQA Guidelines Section 15064.3(b)

As discussed above, VMT is now the preferred method for evaluating transportation impacts, rather than LOS. The City currently has not adopted traffic impact standards based on VMT. However, as noted above, the OPR's Technical Advisory recommends the standard of 15% below existing VMT per capita as a significance threshold for evaluating the transportation impacts of a residential project.

The RTP/SCS recently adopted by MCAG indicates that total current (2016) daily VMT is 7,597,150, and projected daily VMT in 2042 would be 9,618,401. The 2015 population in the MCAG area (Merced County and incorporated cities within) was 272,718, and the projected 2042 population would be 388,939 (MCAG 2018a). Based upon these figures, the current VMT per capita in the MCAG region is 27.86 and the projected 2042 VMT per capita would be 24.73. Figures for 15% below current and 2042 VMT per capita would be 23.68 and 21.02, respectively, and these would be the thresholds used for VMT impact analysis.

Based upon the estimates of the CalEEMod run for the project (see Appendix B), the annual VMT generated by the project with mitigating features would be 8,460,605, which is a daily VMT of approximately 23,180. As noted in Section 3.14, Population and

Housing, the resident population on the project site would be approximately 2,016. Therefore, the project VMT per capita would be approximately 11.50, which is substantially below the VMT per capita thresholds, both current and projected 2042. Based upon this, the project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b), and project impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact TRANS-4: Safety Hazards

The project site is located along Main Street, which along the site frontage is a two-lane road with no improvements. Should the road remain in its existing condition, the project could introduce a potential safety concern related to increased traffic and turning movements from Main Street to and from the project site. However, as described in Chapter 3.0, Project Description, the Main Street frontage would be widened and improved as part of the project. The improvements would include a median turn lane and bicycle and pedestrian facilities. With these improvements, potential safety concerns associated with the project would be reduced to a level that would be less than significant.

Level of Significance: Less than significant

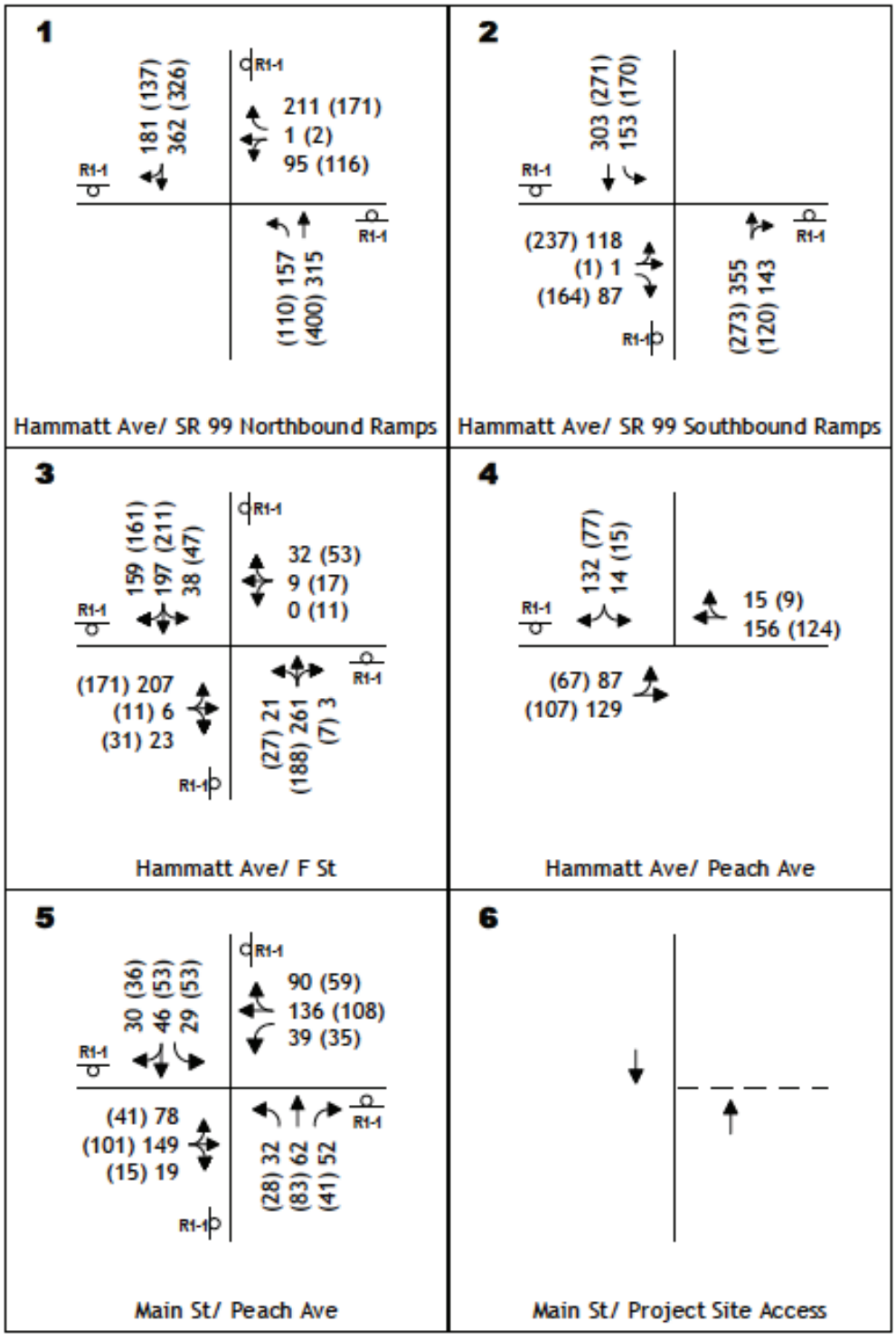
Mitigation Measures: None required

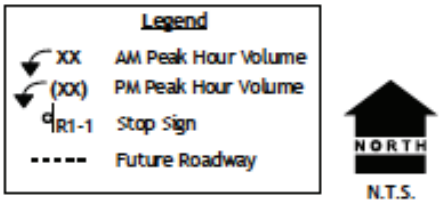
Impact TRANS-5: Emergency Access

As described in Chapter 3.0, Project Description, the project would have two driveways accessible to emergency vehicles only, in addition to the main entrance. Also, as noted in c) above, the project would improve the Main Street frontage, which would occur in accordance with City improvement standards and facilitate emergency vehicle trips to and from the project site. Project impacts related to emergency access would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

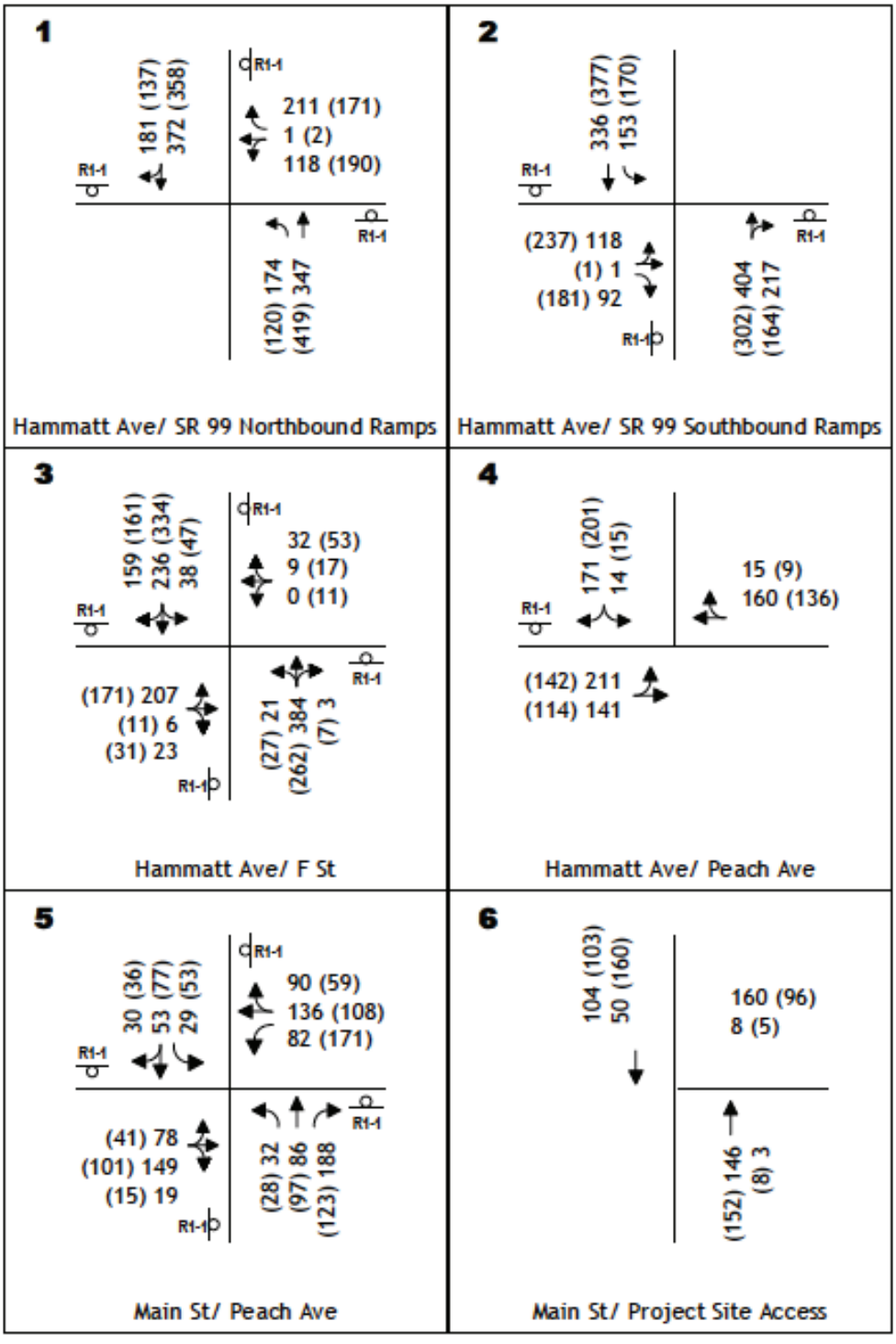




N.T.S.

SOURCE: KD Anderson and Associates, Inc (2020)

Figure 15-1
EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS



SOURCE: KD Anderson and Associates, Inc (2020)

Figure 15-2
EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

16.0 UTILITIES AND ENERGY

ENVIRONMENTAL SETTING

Water System

The City provides potable water to residential, commercial, industrial, and institutional customers. As noted in Chapter 11.0, Hydrology and Water Quality, the City obtains its water from local aquifers through nine active wells (one well is currently inactive). Eight of the City wells have individual production capacities ranging from 970 to 1,140 gallons per minute, with a total design capacity of 12.8 mgd. The City recently added a new groundwater well to its system, Well No. 17; the well's production capacity of 2,000 gallons per minute added approximately 2.9 mgd to the City's water production capacity (City of Livingston 2016b). In 2018, the City delivered 2.2 billion gallons of water (City of Livingston 2019).

The City's water system also includes a storage tank with a capacity of one million gallons and nearly 40 miles of pressurized water lines ranging in diameter from 2 to 16 inches (City of Livingston 2019). The project proposes to connect to a water line 12 inches in diameter beneath Main Street along the project site frontage. Since 2003, the City has been installing individual water meters. In addition, the City has been requiring commercial, industrial, and multifamily residential customers and other users to install backflow prevention devices to protect the water system from contamination (City of Livingston 2018).

As noted in Chapter 11.0, Hydrology and Water Quality, the Arena Canal crosses the western portion of the project site. The canal is owned and operated by MID, an irrigation district organized in 1919. It currently encompasses approximately 164,000 acres in eastern Merced County. The MID diverts surface water from the Merced River and uses groundwater wells, primarily for agricultural water supplies. These water supplies are conveyed through approximately 800 miles of facilities, consisting of canals, pipelines, pump stations, creeks, and drains (MID 2020). Besides the Arena Canal, a MID irrigation pipeline (Well 20A Pipeline) extends from the canal and runs along the southern boundary of the project site to an existing MID well on the project site (MID 2015).

The Urban Water Management Planning Act of 1983 requires water agencies, including the City of Livingston, to prepare an Urban Water Management Plan (UWMP) to inform the public of the City's long-term water resource plans. These plans are needed to that ensure adequate water supplies are available to meet existing and planned future demands during normal, single dry and multiple dry years. The UWMP is to be updated periodically.

The City's 2015 Urban Water Management Plan (AM Consulting Engineers 2016) was prepared and adopted in accordance with the Urban Water Management Planning Act. The 2015 UWMP documents the City's existing water supplies and existing and projected future water demands through the year 2040. Of the projected 2040 demand of 2,604 acre-feet per year, the majority of the demand (57%) is from industrial use; nearly all of the remainder, approximately 34% is associated with residential development. The City presently serves approximately 2,900 residential connections.

The City's water supply is derived entirely from groundwater wells drawing from the underlying Merced Subbasin. Water demand through 2040 was estimated based on an increase of 1,980 residential connections to reach a residential demand of 887 acre-feet per year. On the basis of this and other data, the UWMP finds that groundwater will be able to meet all of the water supply needs of the City through 2040 and beyond during normal, dry and multiple-dry years. This supply would remain reliable even in drought periods such as the severe one-year drought experienced in 1977 and the prolonged drought of 1987-1992, or the most recent 2010-2015 drought (AM Consulting Engineers 2016).

Wastewater System

The City of Livingston collects and treats wastewater generated by City residents and businesses. The City's wastewater collection system consists of 29 miles of sewer lines ranging in diameter from 6 to 27 inches (City of Livingston 2018). The project proposes to connect to an 8-inch diameter sewer line beneath Newcastle Drive west of the project site.

Wastewater is conveyed to the Domestic Wastewater Treatment Plant at Vinewood Avenue and Washington Boulevard northwest of Livingston. The Domestic Wastewater Treatment Plant currently has sufficient capacity to treat an average wastewater flow of 2.0 million gallons per day (mgd). Under the terms of the RWQCB Order Number R5-2014-0147, Waste Discharge Requirement for the City of Livingston Wastewater Treatment Facility, the monthly average dry weather flow shall not exceed 2.0 mgd (City of Livingston 2018). As of 2018, the City's current wastewater flows average 0.9 mgd.

Storm Drainage

Currently, there are no storm drainage systems within or serving the project site. Livingston's storm water is managed through a joint program managed in association with MID. Storm drainage is temporarily stored in detention basins, within the urbanized area. Each watershed has a lift station that drains the storm water at a controlled rate to MID canals, when capacity is available. The detention basins store storm runoff during peak rainfall periods, allowing the pump stations to meter discharge over a longer time to the MID canals (City of Livingston 2018).

The Livingston General Plan recommends that the City's undeveloped areas be served by new detention basins, because MID has indicated that additional transport capacity in its canals is unavailable. The City will continue to use MID facilities as a part of the storm

drainage solution, but also plans to identify locations for new retention basins (City of Livingston 2018). The project proposes to construct two retention basins to collect onsite storm drainage.

As described in Chapter 11.0, Hydrology and Water Quality, the City has an adopted SWMP, developed in compliance with the federal NPDES program and with the SWRCB's MS4 General Permit. The SWMP requires preparation of a construction Storm Water Pollution Prevention Plan and incorporation of post-construction BMPs into the project to protect water quality. The on-site storm drainage system would be required to conform to the adopted SWMP, subject to the approval of the City Engineer.

Solid Waste

Solid waste is collected in Livingston by Gilton Solid Waste Management, Inc., under contract with the City. On average, approximately 1,097 tons of solid waste is collected in Livingston per month.

Solid waste collected in Livingston is transported to one of two landfills in Merced County. The Billy Wright Landfill, approximately one mile west of Interstate 5 near Los Banos, has a maximum permitted disposal capacity of 14,800,000 cubic yards. As of September 30, 2010, this landfill had a remaining capacity of 11,370,000 cubic yards (CalRecycle 2018a). The Highway 59 Landfill, along SR 59 approximately six miles north of Merced, has a maximum permitted disposal capacity of 30,012,352 cubic yards. As of September 1, 2005 – the latest date for which information was available – this landfill had a remaining capacity of 28,025,334 cubic yards (CalRecycle 2018b).

Telecommunications Systems

AT&T provides telephone services to the Livingston area, and Comcast provides cable television services. Telephone and cable television lines have been extended to developed areas in the project vicinity. State-regulated telecommunication utilities are obligated to extend services to new development sites as necessary.

Energy Systems

CEQA requires that an EIR include a discussion of the potential energy impacts of a proposed project, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100(b)(3)). Appendix F of the CEQA Guidelines provides guidance for a discussion of energy impacts. Subjects may include identifying wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, maintenance and/or removal that cannot be feasibly mitigated, and the pre-emption of future energy development or future energy conservation.

Energy Usage

According to the latest information from the U.S. Energy Information Administration (EIA), California consumed 7,830 trillion British thermal units (BTUs) of energy in 2016. Only Texas consumed more energy. However, consumption per capita in California was 197 million BTUs, which was 49th among all states and the District of Columbia. Transportation accounted for approximately 39.8% of the energy consumed in California, followed by industrial with 23.7%, commercial with 18.9%, and residential with 17.7%. Natural gas accounted for approximately 2,250 trillion BTUs of the energy consumed in California, while motor gasoline accounted for approximately 1,700 trillion BTUs. California ranked third in the U.S. in petroleum production, third in conventional hydroelectric generation, second in net electricity generation from all other renewable energy resources combined, and first as a producer of electricity from solar, geothermal, and biomass resources (EIA 2017).

Electricity is a major energy source for residences and businesses in California. In 2016, electricity consumption in California totaled approximately 285,701 gigawatt-hours (GWh). In Merced County, electricity consumption in 2016 totaled approximately 3,559 million kilowatt-hours (kWh), of which approximately 2,840 million kWh were consumed by non-residential uses and the remainder by residential uses (CEC 2018a).

Natural gas is another major energy source. In 2016, natural gas consumption in California totaled approximately 12,750 million therms (CEC 2018a). In 2018, natural gas consumption in Merced County totaled approximately 120 million therms, of which approximately 96 million therms were consumed by non-residential uses and the remainder by residential uses (CEC 2018b).

Motor vehicle use accounts for substantial energy usage. The Merced County Association of Governments (MCAG) estimated total vehicle miles traveled (VMT) within Merced County and its cities were approximately 2,725,000 miles daily in 2016 (MCAG 2018a). Estimated motor vehicle fuel consumption in Merced County in 2015 was 304,600 gallons of gasoline and 209,600 gallons of diesel fuel per day. Fuel consumption per capita was 1.89 gallons per day (MCAG 2018b). A significant portion of travel mileage in Merced County is generated by trips from Bay Area commuters moving into the county (MCAG 2018a).

Energy Systems and Facilities

Electrical service to the City is provided by MID, which has electrical utility powers under the California Water Code. Electricity from MID is generated by the McSwain and New Exchequer Dams in Mariposa County. Powerhouses at both dams generate an average total of 332,992,155 kWh of electricity per year. MID serves over 3,000 customers and has signed contracts for over 9,000 new residential units. MID has constructed a substation near Livingston that distributes power purchased from third parties. This substation is tied into a distribution system that serves customers in the Livingston area. While MID provides electricity, PG&E is responsible for the maintenance of the distribution system (Merced County 2013c). Electrical distribution lines have been extended to the project vicinity.

PG&E provides all the natural gas services in Merced County. It owns an 8-inch diameter gas pipeline that runs parallel to SR 99 through Merced County (Merced County 2013c). Most of the City of Livingston is served by natural gas lines. As with telecommunication utilities, State-regulated energy utilities are obligated to extend services to new development sites, as necessary.

REGULATORY FRAMEWORK

NPDES Program

As discussed in Chapter 11.0, Hydrology and Water Quality, storm drainage runoff is regulated by the federal Clean Water Act through the NPDES, and the City of Livingston has adopted a SWMP pursuant to the NPDES program. Under new NPDES requirements applicable to the City, storm water discharge volumes associated with new development cannot exceed existing discharges.

Solid Waste Statutes and Ordinances

Under AB 939, enacted in 1989, local jurisdictions are required to divert at least 50% of their solid waste from landfills by 2000. More recent legislation, AB 341, increases the recycling requirement to 75% of solid waste by 2020. Beginning April 1, 2016, AB 1826, the State's Mandatory Organic Waste Recycling law, phased in requirements for businesses, based on the amount and type of waste the business produces weekly, with full implementation in 2019.

- April 1, 2016: Businesses that generate 8 cubic yards of organic waste per week require organic recycling services.
- January 1, 2017: Businesses that generate 4 cubic yards of organic waste per week require organic waste recycling services.
- January 1, 2019: Businesses that generate 4 cubic yards or more of commercial solid waste per week require organic waste recycling services.

Livingston Municipal Code Section 8-2-50 requires all construction projects with a valuation of at least $20,000 to divert at least 50% of all project-related construction and demolition debris from landfills through reuse and recycling. This also applies to demolition projects with a total square footage of more than 1,000 square feet. Applicants for building or demolition permits involving any covered project shall complete and submit a recycling plan as part of the application for the permit.

California Energy Efficiency Regulations

California has implemented numerous energy efficiency and conservation programs that have resulted in substantial energy savings. The State has adopted comprehensive energy

efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. Part 6 of Title 24, also known as the California Energy Code, contains energy conservation standards applicable to all residential and non-residential buildings throughout California, including schools and community colleges. These standards are occasionally updated. The City has adopted the 2019 California Energy Code.

In 2009, the California Building Standards Commission adopted a voluntary Green Building Standards Code (CALGreen). In January 2010, the Commission made CALGreen mandatory, effective January 1, 2011, and it has since been incorporated within the State's Building Standards Code, California Codes of Regulations, Title 24, Part 11. CALGreen sets forth mandatory measures, applicable to new residential and nonresidential structures as well as additions and alterations, on water efficiency and conservation, building material conservation, interior environmental quality, and energy efficiency. Mandatory energy efficiency measures for nonresidential structures include compliance with the latest building energy efficiency measures adopted by the State. The City has adopted the 2019 California Green Building Standards Code.

Renewables Portfolio Standard

In 2002, California adopted a Renewables Portfolio Standard and subsequently modified it in 2006 and 2011. Under the 2011 modifications, all electricity retailers in the state must generate 20% of electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2013, 25% by the end of 2016, and 33% by the end of 2020. As of the end of 2017, California derived 30% of its electricity from renewable sources, which is within 3% of the 2020 target and within 20% of the 2030 target (CEC 2018a).

In 2015, SB 350 was signed into law, which increased the electricity generation requirement from renewable sources to 50% by 2030. Most recently, in 2018, SB 100 was enacted. SB 100 accelerated the schedule for 50% electricity generation from renewable sources to 2026 and set a goal of 60% electrical generation from renewable sources by 2030. It also set the goal that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by the end of 2045. Although not associated with Executive Order B-55-18, the goals of SB 100 are consistent with the carbon neutrality goal of the executive order (see Chapter 9.0, Greenhouse Gas Emissions).

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on the environment related to utilities and service systems if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects,

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years,

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments,

- 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,

- Not comply with federal, state, and local statutes and regulations related to solid waste,

- Result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, or

- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact UTIL-1: Relocation or Construction of New Facilities

The project would connect to existing water, sewer, and electricity facilities located in existing adjacent streets or in the immediate project vicinity. No new utility facilities would need to be constructed or relocated, other than a sewer line extending offsite to a connection beneath Newcastle Drive to the west. The sewer line would be installed in existing developed right-of-way; as such, the installation would not have significant environmental impacts.

Onsite storm drainage facilities would be constructed as part of the project. The project would not connect to the City's storm drainage system, so impacts of facility construction would be confined to the project site. Onsite storm drainage facilities would not have environmental impacts that are separable from the overall project.

The project proposes to pipe the segment of the Arena Canal that crosses the project site; no relocation is proposed. The piping would be coordinated with MID to ensure that there is no disruption of irrigation water deliveries. Piping work would be confined to the project site; no impacts would occur beyond the site. The existing MID well along the southern boundary of the project site would not be removed or altered; an easement for MID would be maintained at the well site and along the pipeline connecting the well to the Arena Canal. Project impacts related to relocation or construction of new facilities would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-2: Water Systems and Supply

The project would result in the expansion of the City's water distribution system. The project would connect to the existing water lines located along Main Street and water would be supplied by the City. The existing water supply lines have adequate capacity to serve the project and would not need to be expanded. It is anticipated that groundwater supplies will be sufficient to meet the needs of the City through the year 2040, even under drought conditions. The City's current water supply can apparently accommodate the proposed project, and the project would not require water entitlements beyond those already obtained.

The project would place additional demand on the City's water supplies. As indicated above, eight of the City's wells had a design capacity of approximately 12.8 mgd, which was recently augmented by approximately 2.9 mgd with the addition of Well No. 17. The City's available domestic water supply was evaluated in its 2015 UWMP. The UWMP found that existing groundwater supplies will be able to meet all of the City's projected water supply needs through 2040, and beyond, during normal, dry and multiple-dry years. Although the project would result in a substantial increase in the number of City water connections, the overall increase in water demand resulting from the project would be limited to approximately 2.1% of the existing demand and could be accommodated with projected water supplies. The project does not require preparation of a Water Supply Assessment.

The City appears to have adequate capacity to accommodate the water demands of the project. Project impacts on water systems and supplies would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-3: Wastewater Treatment Capacity

The project would place additional demand on the City's wastewater collection and treatment system. Based on an average flow of 2,800 gallons per day per acre for high-density residential land use (City of Livingston 2007c), the amount of wastewater that would be generated by the project would be approximately 48,440 gallons per day. As indicated above, the Domestic Wastewater Treatment Plant currently has available capacity of 2.0 mgd on average. The City's wastewater treatment system appears to have adequate capacity to accommodate wastewater generated by project activities at full buildout. The project would contribute to future expansion of the Domestic Wastewater Treatment Plant through the payment of sewer connection fees. Project impacts on wastewater services would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-4: Solid Waste Services

Project construction would require the removal of existing shrubs, grasses, and debris associated with the canal. Operation of the apartments would generate solid waste materials consistent with residential land uses. The project is not anticipated to create a significant amount of solid waste.

All solid waste generated during construction and operations would be removed in accordance with federal, state, and local regulations. These include the 2019 California Green Building Standards, which requires projects to divert 65% of all construction and demolition debris excluding inert and organic material and 90% of inert and organic materials from landfills through reuse and recycling. The Highway 99 Landfill, with 93% of its capacity available, could accommodate project-generated solid waste. Project impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-5: Energy and Communications Systems

As noted above, existing electrical, natural gas, telephone, and cable television lines are available near the project site. The project site would have access to these services without requiring significant expansion of these systems. Project impacts on energy and communications systems would be less than significant. Chapter 19.0, Other CEQA Issues, evaluates project impacts related to energy consumption and conservation.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-6: Project Energy Consumption

Project construction would involve fuel consumption and use of other non-renewable resources. Construction equipment used for such improvements typically runs on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. However, construction-related fuel consumption would be finite, short-term, and consistent with construction activities of a similar character. This energy use would not be considered wasteful, inefficient, or unnecessary.

Electricity may be used for equipment operation during construction activities. It is expected that more electrical construction equipment would be used in the future, as it would generate fewer air pollutant emissions. This electrical consumption would be consistent with construction activities of a similar character; therefore, the use of electricity in construction activities would not be considered wasteful, inefficient, or

unnecessary, especially since fossil fuel consumption would be reduced. Moreover, under California's Renewables Portfolio Standard, a greater share of electricity would be provided from renewable energy sources over time, so less fossil fuel consumption to generate electricity would occur.

The most recent Residential Energy Consumption Survey by the U.S. Energy Information Administration found that average annual energy consumption by apartment units in buildings with five or more units located in the western United States was 4,581 kWh of electricity per household and 159 cubic feet of natural gas per household (EIA 2018). Based on these factors, proposed development on the project site would consume approximately 2,198,880 kWh of electricity and 76,320 cubic feet of natural gas annually.

The project would be required to comply with applicable provisions of the adopted California Energy Code and CALGreen in effect at the time of project approval. The provisions of these codes are intended to increase energy efficiency of buildings, thereby reducing energy consumption. Compliance with these standards would reduce energy consumption associated with project operations. Overall, project construction and operations would not consume energy resources in a manner considered wasteful, inefficient, or unnecessary. Project impacts related to energy consumption would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-7: Consistency with Energy Plans

The City does not have adopted plans for renewable energy or energy efficiency. However, the City has adopted the 2019 versions of both the California Energy Code and CALGreen, which contain provisions that promote energy efficiency. The project would be required to comply with the applicable requirements of these two codes, which are designed to improve energy efficiency of new structures, thereby advancing State energy conservation goals. Project impacts related to energy plans would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

17.0 CUMULATIVE IMPACTS

17.1 INTRODUCTION TO CUMULATIVE IMPACTS

A cumulative impact, as defined by CEQA Guidelines Section 15355, is an environmental effect that may result from the combination of two or more environmental effects associated with the proposed project, or from the combination of one or more project environmental effects with related environmental effects caused by other closely related projects. Cumulative impacts may also result when a project's environmental effects compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

CEQA Guidelines Section 15130 states that an EIR must discuss the cumulative environmental impacts of a project "when the project's incremental effect is cumulatively considerable." As described in CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" effects occur when the incremental effects of an individual project are significant when viewed in connection with the effects of other closely related projects, including past projects, current projects, and probable future projects.

If the project does not involve a cumulatively considerable contribution to a significant cumulative effect, the project's effect does not need to be considered significant, and discussion in the EIR can be limited to the basis for that conclusion. Projects that do involve cumulatively considerable contributions may involve significant cumulative impacts. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. As provided in *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1996) a project's cumulatively considerable contribution to a significant cumulative impact can be reduced to a less than considerable level with mitigation measures.

The analysis of cumulative impacts is to be based on either 1) a list of past, present, and probable future projects producing related or cumulative impacts, or 2) on a summary of projections contained in an adopted general plan or related planning document, or in a prior certified environmental document which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Where significant cumulative impacts are identified, the EIR must examine reasonable, feasible options for mitigating or avoiding the project's contribution to a less than considerable level. In some cases, the only feasible mitigation may involve the adoption of ordinances or regulations. For this EIR, the summary approach is used.

The following cumulative impact analysis determines for each environmental discipline:

- The geographic context for the analysis,

- Whether there exists the potential for a significant cumulative impact in that environmental discipline,
- Whether the project would make a cumulatively considerable contribution to a significant cumulative impact, or make significant an impact that was otherwise less than significant, and
- Whether and how a significant cumulative impact or a considerable contribution can feasibly be avoided or reduced to a less than significant or less than considerable level.

Where relevant, the analysis and mitigation measures from the Livingston General Plan EIR are summarized in the following chapter sections. As set forth below, the proposed project would not involve any known change in, or any considerable new contribution to, the significant cumulative impacts identified in the Livingston General Plan EIR.

17.2 CUMULATIVE IMPACT SETTING

The project site is within the jurisdiction of the City of Livingston. As described in Chapter 12.0, Land Use, the project site is subject to the Livingston General Plan. The Livingston General Plan EIR considered the cumulative environmental effects of the development of lands designated for development under the Livingston General Plan, including the project site (City of Livingston 1999). The project site is within the Planning Area of the Livingston General Plan.

The proposed project would contribute to the long-range cumulative environmental impacts identified in the Livingston General Plan EIR, including potential cumulative impacts of planned urban development on the resources and environmental conditions addressed at a project level in this EIR. Where appropriate, the Livingston General Plan and associated EIR will be cited in this chapter.

17.3 CUMULATIVE IMPACTS OF PROJECT

17.3.1 Aesthetics and Visual Resources

Cumulative impacts on aesthetics are assumed to be localized; that is, aesthetic changes at a site will not generally impact aesthetics at another site if the sites are not visually connected in some fashion. A visual connection between sites could be established by juxtaposition or by location along a travel corridor, among other possibilities. For the purposes of this EIR, the geographic context for cumulative analysis is defined as the "project vicinity," defined more precisely as the approximately 3.1-square miles located within one mile of the project site.

The Livingston General Plan EIR considered only aesthetic impacts that were "demonstrable;" that is, impacts that could be measured. This limited the analysis to

impacts related to light and glare. Light and glare impacts were determined to be less than significant with the implementation of Mitigation Measure 3.7.1, which requires that the City evaluate a project based on specified criteria related to exterior lighting and reflective building material to determine if additional mitigation may be required. No other aesthetic standards were defined in the analysis.

Project design would be required to meet adopted community standards through requirements imposed during the Site Plan and Design Review process. There are no scenic resources in the project area, and scenic vistas identified in the Livingston General Plan would not be affected, so such resources would not be adversely affected. The project would not result in a considerable contribution to any cumulatively significant aesthetic effect.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.2 Air Quality

Cumulative impacts on air resources may be assessed at both a regional and local level. The project would involve contributions to potential air quality impacts at the regional level, defined as the San Joaquin Valley Air Basin, and at the local level, defined as the project vicinity. Regional air quality conditions are described in detail in Chapter 5.0, Air Quality. Past and present agricultural, urban and other development within the Air Basin has resulted in significant air quality impacts, which are the designation of the Air Basin as nonattainment for federal and/or state ambient air quality standards for ozone and particulate matter.

The potential cumulative air quality impacts of the Livingston General Plan were addressed in the General Plan EIR and found to be significant and unavoidable. As explained in Section 17.3.2 above, this EIR focuses on project-specific effects, in accordance with CEQA Guidelines Section 15152(d).

Chapter 5.0 describes and quantifies the criteria air pollutant contributions of the proposed project to the Air Basin. The contributions, which include ozone precursors and particulate matter, would be added to both existing and predicted future levels of these pollutants. While SJVAPCD air quality management plans and programs are oriented to reduction of existing air pollution and attainment of ambient air quality standards, air pollution generated by the project would contribute at least to existing, significant exceedances of air standards.

CalEEMod estimates of air pollutant emissions from construction and operation of the proposed project indicate that neither SJVAPCD construction nor operational significance thresholds would be exceeded by the project, except for NOx operational emissions that would be reduce by application of SJVAPCD Rule 9510. The GAMAQI notes that project emissions may be cumulatively considerable even if they are below SJVAPCD significance thresholds. However, as discussed in Chapter 5.0, Air Quality, the significance thresholds are applied to evaluate regional impacts of project-specific

emissions of air pollutants. Regional impacts of a project can be characterized in terms of total annual emissions of criteria pollutants and their impact on SJVAPCD's ability to reach attainment. On that basis, the proposed project would not result in a considerable contribution to a significant cumulative air quality impact in the Air Basin.

Cumulative traffic operations (see Section 17.3.12 below) may cause LOS at several intersections to reach LOS E, thus potentially resulting in carbon monoxide hotspots. However, with implementation of Mitigation Measure CUMUL-1, described later in this chapter, operations at this intersection would improve to a LOS above E, so no CO hotspots would develop. Cumulative traffic operations would not result in a considerable contribution to any cumulatively significant air quality impact.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.3 Biological Resources

Cumulative impacts on biological resources can be addressed in several potential contexts, including habitat areas for individual sensitive species, watersheds, or bioregions. The proposed project site is in an area that has been subjected to intensive agricultural use and is not biologically diverse or sensitive. For the purposes of this EIR, the geographic context for cumulative biological resource analysis is defined as the project vicinity.

The project vicinity has been subject to significant biological resource impacts because of past agricultural and urban development. As a result, and as characterized in Chapter 6.0, Biological Resources, the project vicinity does not support substantial populations of common or sensitive wildlife species. However, the Livingston General Plan EIR acknowledged that incremental urbanization allowed under the General Plan could have adverse impacts on some species. Also, trees in the project vicinity have been used for nesting by Swainson's hawk and may be used for nesting by other protected and sensitive bird species.

As noted in Chapter 6.0, Biological Resources, the project could potentially reduce foraging habitat for Swainson's hawk, and it could affect nesting behaviors. A biological assessment recommended measures to reduce Swainson's hawk impacts, including purchase of Swainson's hawk foraging mitigation credits. The project applicant, however, concluded that the proposed measures would be economically infeasible to implement. Therefore, project impacts may be significant and unavoidable. If so, the project would make a contribution to biological impacts that is cumulatively considerable.

Contribution to Significant Cumulative Impacts: Potentially considerable

Mitigation Measures: None feasible

17.3.4 Cultural Resources and Tribal Cultural Resources

The geography of cultural resource impacts can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where adequate inventory data are available to define it. Resource information is ordinarily available only for small percentages of a given area – those areas that have been intensively surveyed. This is true for the project site, which has geomorphology and land use history in common with the City of Livingston as a whole. For the purposes of this EIR, the geographic context for cumulative analysis of cultural resources and tribal cultural resources is defined as the City of Livingston.

As described in Chapter 7.0, Cultural Resources and Tribal Cultural Resources, the project site does not contain known cultural resources of significance. The EIR includes construction limitations that would reduce potential cultural resource impacts to a level that would be less than significant. The proposed project would not involve a considerable contribution to any cumulative cultural resource impact in the Livingston area.

No known tribal cultural resources are located on the project site, and no tribes have expressed interest in contacting the City of Livingston for AB 52 consultation. Mitigation described in Chapter 7.0 would reduce potential impacts on any tribal cultural resources encountered to a less-than-significant level. The project would not involve a considerable contribution to any cumulative tribal cultural resource impact.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.5 Geology and Soils

The proposed project would not result in potential geology and soil impacts that could be cumulatively significant. Potential geology and soils include potential project exposure to geologic hazards, seismic shaking, soil-related hazards, and soil erosion. Except for soil erosion, these potential issues have impacts that are limited to the project or its occupants and are not inherently accumulative. Potential cumulative impacts associated with soil erosion are addressed in Section 17.3.8, Hydrology and Water Quality.

The Livingston General Plan EIR did not identify any cumulative impacts associated with geology and soils. Potential geology and soil impacts of the proposed project can be mitigated to a level that would be less than significant. The project would not make a considerable contribution to any cumulative geology or soils impacts.

The geographic context for cumulative mineral resource analysis is defined as the City of Livingston. As discussed in Chapter 8.0, Geology and Soils, there are no mineral resources on the project site. The Livingston General Plan EIR noted the potential presence of oil or gas wells in the northwest section of Livingston, which is several miles from the project site. The project would not contribute to cumulative mineral resource impacts in the County.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.6 Greenhouse Gas Emissions

GHG emissions are related to global climate change. Global climate change is a distinct CEQA issue in that, while a project may generate GHG emissions, the impacts of such emissions are global. As such, the impacts of a project's GHG emissions are considered cumulative in nature. The analysis in Chapter 9.0, Greenhouse Gas Emissions, addresses the potential cumulative impacts of the project related to GHG emissions; therefore, there is no cumulative impact discussion on the issue in this chapter.

17.3.7 Hazards and Hazardous Materials

Potential cumulative impacts associated with hazards and/or hazardous materials are assumed to be localized. Any project exposure to hazards would occur on or in the immediate vicinity of the site, and any potential on- or off-site impact of hazardous materials use associated with the project would also be limited to the immediate vicinity. For the purposes of this EIR, the geographic context for cumulative analysis of hazards and hazardous materials is defined as the project vicinity.

The Livingston General Plan EIR did not identify any significant impacts related to hazards or hazardous materials. There are no records of the project site or vicinity having sites of known contamination. As described in Chapter 10.0, Hazards and Hazardous Materials, hazardous material use by the project would be limited. No significant wildland fire hazards were identified in the project vicinity. The project would not involve a contribution to hazards that would be cumulatively considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.8 Hydrology and Water Quality

Cumulative hydrologic impacts are logically analyzed on a watershed basis, or at an aquifer level in the case of groundwater. The project site is within several miles of the Merced River, but the site is isolated from the river by the relatively flat topography, street and irrigation improvements, and lack of developed drainage in the unincorporated area. The project site is located within the Merced Groundwater Subbasin, but the project would involve no demands on groundwater with potential effects that could not reasonably extend outside the immediate project vicinity. For the purposes of this EIR, the geographic context for cumulative hydrologic analysis is defined as the project vicinity.

The project site contains only one surface water feature – the Arena Canal constructed by MID to provide irrigation water to its customers. No natural surface waters are in the

project vicinity. The projects would obtain potable water from the City of Livingston system, which derives its supply from groundwater. The Livingston did not identify any significant impacts associated with groundwater supply. Also, as described in Chapter 11.0, Hydrology and Water Quality, the City will participate in the implementation of the Groundwater Sustainability Plan for the Merced Subbasin, the objective of which is to ensure sustainable use of this groundwater resource (Merced SGMA 2019). Project impacts on water quality would be mitigated by compliance with the provisions of the City's SWMP and MS4 General Permit. By complying with these plans and permits, the projects would not involve surface water resource effects or contribute significantly to groundwater demands or water quality effects. The project would not involve a considerable contribution to any significant cumulative hydrology or water quality effects.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.9 Land Use, Agriculture/Forestry and Population

The potential for cumulative land use impacts is related to the scale of the project and the presence or absence of a defined community or land use entity; the geographic context for cumulative land use analysis can range from a project site and adjacent parcels to an entire community or region, depending on project size. For the purposes of this EIR, the geographic context for cumulative land use analysis is defined as the project vicinity.

The project vicinity is a mix of residential, commercial, agricultural, and recreational land uses, along with vacant land. Potential effects on these land uses were evaluated in this EIR. As noted in Chapter 3.0, Project Description, the proposed project would be consistent with the existing General Plan designation and zoning for the project site. With the approval of the General Plan amendment and rezoning, the proposed project would not involve a considerable contribution to a significant cumulative land use effect.

The project proposes construction of apartments, which would beneficially affect population and availability of housing in the City. As noted in Chapter 12.0, Land Use and Population, the project is consistent with the General Plan designation for the site, so it would not lead to population growth or housing unit additions inconsistent with General Plan projections. The proposed project would not involve an adverse contribution to a cumulative population and housing impact that is considerable.

Agricultural Resources

Cumulative impacts on agricultural land resources may be assessed on a regional or local level; analysis at a local level yields a more conservative result. For the purposes of this EIR, the geographic context for cumulative analysis of agricultural resources is defined as San Joaquin County.

The loss of agricultural land associated with lands designated for urban development in the Livingston General Plan was identified as a significant and unavoidable effect in the

Livingston General Plan EIR. According to CEQA Guidelines Section 15152(d), where an EIR has been prepared and certified for a plan, a lead agency for a later project pursuant to or consistent with the plan should limit the project EIR or negative declaration to effects which were not examined as significant effects on the environment in the prior EIR or are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means. In accordance with CEQA Guidelines Section 15152(d), this EIR focuses on project-specific effects.

As discussed in Chapter 12.0, the project site includes land designated as Prime Farmland and Farmland of Statewide Importance. Therefore, project development would lead to the loss of this agricultural resource. However, as noted, the Livingston General Plan has designated the project site for development, and loss of agricultural land has been analyzed in the Livingston General Plan EIR. The project would not involve any new impacts that were not analyzed in the Livingston General Plan EIR, nor would it increase the severity of impacts identified in that EIR. Therefore, the project is not considered to involve new impacts on agricultural resources that would be cumulatively considerable.

Overall, the project would not contribute to an adverse cumulative impact on land use or population that is considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.10 Noise

Cumulative noise impacts are assumed to be localized; the impacts of noise are reduced with distance, and unless there is a very significant existing or proposed noise source, the potential for cumulative impacts will ordinarily be limited to a few hundred yards. There are no "very significant" noise sources in the project vicinity. For the purposes of this EIR, the geographic context for cumulative noise analysis is defined as the project vicinity.

The Livingston General Plan EIR identified potential noise sources associated with General Plan development. It concluded that impacts associated with these noise sources would be reduced to a level that would be less than significant with implementation of the polices and standards of the Noise Element. The project would have noise impacts that are potentially significant. However, with implementation of mitigation measures described in Chapter 13.0, Noise, project development would be consistent with the policies and standards of the Noise Element. The project would not involve a contribution to noise impacts that would be cumulatively considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

17.3.11 Public Services and Recreation

Potential cumulative impacts related to public services are appropriately addressed at a community level. The proposed project is in the City, so the City and special districts with jurisdiction (e.g., LUSD, MUHSD, and Merced County Fire Department under contract with the City) would provide most of the services.

The Livingston General Plan EIR identified only one significant impact associated with public services – the adequate provision of fire protection services. As noted in Chapter 14.0, Public Services and Recreation, the City has addressed the need for more fire protection service by establishing the *2018 Consolidated Community Facility District*, into which new development projects are required to annex and to which fees are to be paid. Payment of fees, along with compliance with the applicable building codes and City standards, would reduce project impacts on fire protection services to a level that would be less than significant.

The Livingston General Plan EIR did not identify significant impacts on other public services. As described in Chapter 14.0, the project would place demands on such services but would be required to pay fees for the future construction of police facilities, schools, and other municipal buildings. With the fee payments, the project would not make a considerable contribution to cumulative impacts on public services.

Contribution to Significant Cumulative Impacts: Less than considerable

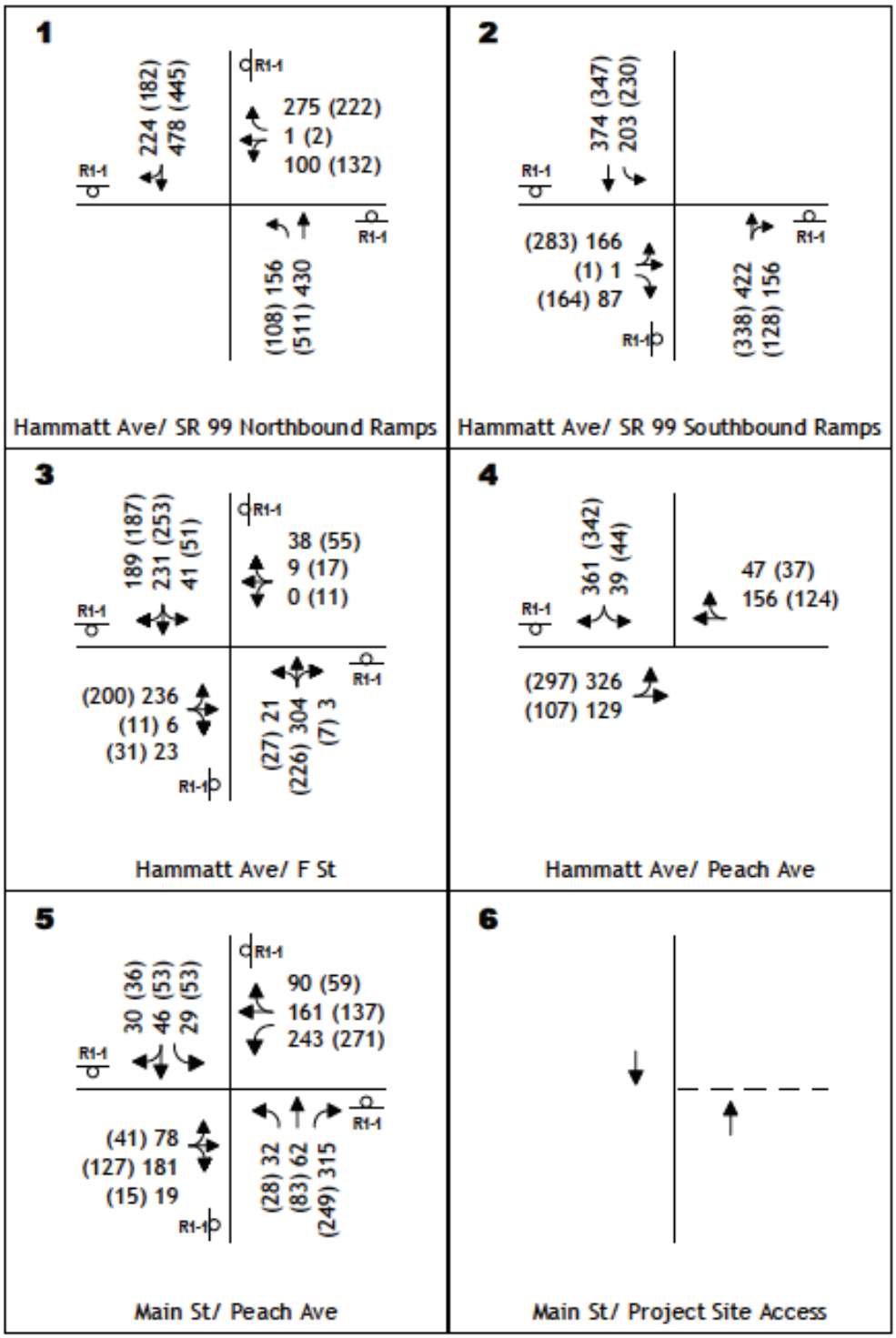
Mitigation Measures: None required

17.3.12 Transportation

Cumulative transportation impacts, primarily vehicular traffic, are addressed within the area potentially impacted by a proposed project, typically within a certain radius from the project site. This is also the case with respect to the potential traffic impacts of the project, which are addressed in detail in Chapter 15.0, Transportation.

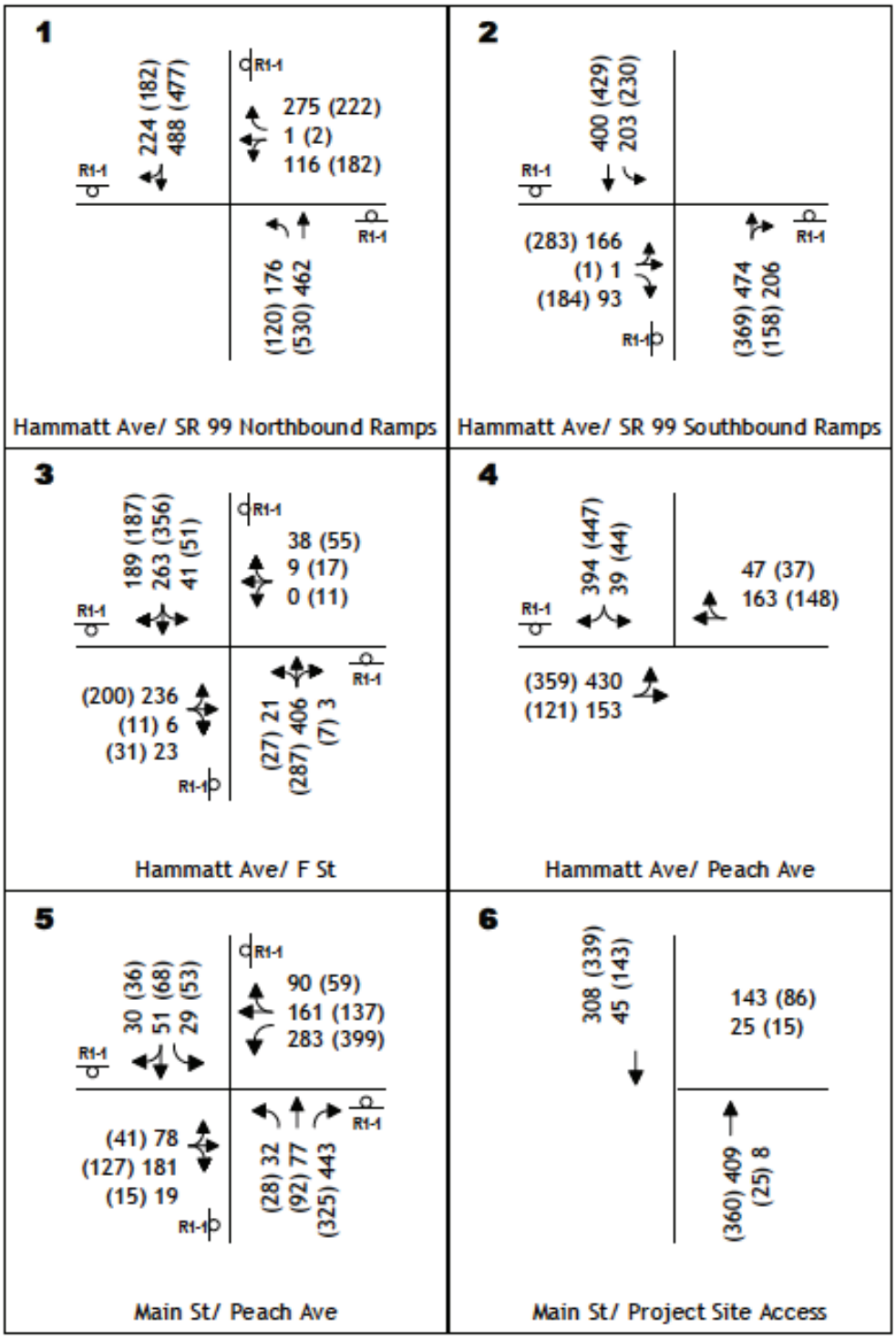
The project's potential for cumulatively considerable contributions to traffic impacts was considered in the project traffic study by KD Anderson and Associates, which is available in Appendix F of this EIR. The traffic study evaluated potential project impacts under cumulative conditions, which was based upon anticipated future projects in the Livingston area selected with the assistance of City staff.

Figure 17-1 shows traffic volumes and lane configurations under Cumulative conditions without the project, and Figure 17-2 shows the same under Cumulative Plus Project conditions.



SOURCE: KD Anderson and Associates, Inc (2020)

Figure 17-1
CUMLATIVE NO PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS



SOURCE: KD Anderson and Associates, Inc (2020)

Figure 17-2
CUMLATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Table 17-1 shows the LOS under Cumulative conditions without and with the project. As shown in Table 17-1, only one of the six study intersections would operate at acceptable LOS C or better during both the a.m. and p.m. peak hours under both Cumulative conditions (Main Street/Project Site Access). Recommended street improvements, in addition to those described in Chapter 15.0 (RSI-1 and RSI-2), are presented below. However, given recent guidance by the State, LOS is no longer a metric that may be used to evaluate CEQA environmental impacts of traffic. Nevertheless, improvements recommended by the traffic study are provided below, as they would avoid potentially significant environmental impacts associated increased vehicle delay, such as increased air pollutant and GHG emissions at these intersections.

TABLE 17-1
LOS AT STUDY INTERSECTIONS – ALL CUMULATIVE CONDITIONS

	A.M. Peak LOS		**P.M. Peak LOS**	
Intersection	**Cumul. w/o Project**	**Cumul. with Project**	**Cumul. w/o Project**	**Cumul. with Project**
Hammatt Ave/SR 99 Northbound Ramps	**F**	**F**	**F**	**F**
Hammatt Ave/SR 99 Southbound Ramps	**F**	**F**	**F**	**F**
Hammatt Ave/F Street	C	**D**	C	**E**
Hammatt Ave/Peach Ave	C	**E**	C	**E**
Main Street/Peach Ave	C	**E**	C	**E**
Main Street/Project Site Access	--	C	--	B

Notes: **Bold** values indicate unacceptable LOS.
Source: KD Anderson 2020.

-

  As described in Chapter 15.0, Transportation, VMT is the preferred metric to be used in evaluating transportation impacts. As noted in Chapter 15.0, the VMT per capita estimated would be substantially below the VMT per capita thresholds that were established based upon MCAG figures. As such, the project is not expected to make a contribution to transportation impacts that is cumulatively considerable.Level of Significance: Not applicable

  Recommended Street Improvements:

  RSI-3: The project applicant will pay a fair share of the cost of installing traffic signals at the intersections of Hammatt Avenue and F Street, Hammatt Avenue and Peach Avenue, and Main Street and Peach Avenue. Fair-share costs shall be determined by the City Engineer.

  Significance after Mitigation: Not applicable

17.3.13 Utilities and Energy

Cumulative utility impacts are appropriately considered at the level of the service area of the potentially affected utilities. For water, sewer, storm drainage, and solid waste services, this would be the City of Livingston, as the City either provides these services directly or contracts these services out to franchisees. For energy and communications services, the service area is regional or statewide, but the project would involve no demands with potential effects that could not reasonably extend outside the immediate project vicinity. For the purposes of this EIR, the geographic context for cumulative analysis of these systems is defined as the project vicinity.

The project would be served by utilities provided by the City of Livingston and other agencies. As analyzed in Chapter 16.0, Utilities and Energy, adequate water, wastewater, and storm drainage capacity would be available to serve the project with required onsite improvements. Energy consumption by the project was determined not to be wasteful, inefficient, or necessary. Additionally, both projects would use electricity that would rely less on its generation by fossil fuels, in accordance with the RPS targets, and structures at both sites would be required to comply with the adopted California Energy Code and California Green Standards Code, which include energy efficiency provisions. The project would not result in a considerable contribution to cumulative impacts on utilities or energy.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.0 ALTERNATIVES

18.1 INTRODUCTION

CEQA Guidelines Section 15126.6(a) requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." It further states the EIR shall "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." The alternatives analysis must identify the potential alternatives and include adequate information about each one to allow meaningful evaluation, analysis, and comparison with the proposed project. The EIR must consider a range of alternatives that can feasibly attain most of the basic project objectives and would avoid or substantially lessen one or more of the significant effects of the proposed project, even if an alternative would impede to some degree the attainment of the project objectives or would be more costly.

There are no set rules governing the nature and scope of the alternatives to be discussed, other than the "rule of reason." If an alternative is not feasible or does not provide an opportunity to avoid or substantially reduce environmental effects, the alternative need not be analyzed in detail; if this is the case, the reasons for limiting the analysis should be identified. The environmentally superior alternative must be identified among the alternatives considered.

The following sections describe the process used to select alternatives for evaluation in this chapter. Selected alternatives to the project are analyzed in detail, while alternatives that were considered but not subjected to detailed analysis are noted. The alternatives analysis conforms to the guidelines of CEQA and the CEQA Guidelines and represents the best professional opinion of the EIR preparer, City staff, and their technical reviewers. However, the authority for the approval of the proposed project, the selection of or rejection of alternatives, and the feasibility or infeasibility of alternatives ultimately rests with the County decision-makers.

18.2 SELECTION OF ALTERNATIVES

Alternatives to the project were selected for evaluation in this EIR based on the criteria set forth in CEQA Guidelines Section 15126.6. These criteria include 1) ability of the alternative to meet most of the basic objectives of the project, 2) feasibility of the alternative, and 3) ability of the alternative to avoid or substantially reduce one or more of the significant environmental effects of the project. These criteria are discussed in more detail below.

Ability of the Alternative to Meet Project Objectives

Potential alternatives to the project were evaluated with respect to the objectives of the project, as identified and discussed in Section 3.2 of this EIR. These objectives are to develop vacant land into economically productive land uses, to provide service commercial uses for residents and visitors, to provide jobs and economic benefits for residents in the Livingston area, and to generate tax revenues for the County to support County services. The objectives set forth for the project may have a bearing on the selection and evaluation of alternatives.

Feasibility of the Alternative

Alternatives to the project were evaluated with respect to the "rule of reason" and general feasibility criteria suggested by the CEQA Guidelines. Such criteria include the suitability of the site or alternative site, the economic viability of the alternative, the availability of infrastructure, the consistency of the alternative with general plan designations, zoning or other plans or regulatory limitations, the effect of applicable jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to an alternative site, including consideration of whether or not the site is already owned by the applicant. The application of these criteria to potential alternatives to the proposed project is described in Sections 18.2 and 18.3.

Avoidance or Substantial Reduction of Significant Effects

The evaluation of alternatives must also consider the potential of the alternative to avoid or substantially lessen any of the significant effects of the project, as identified in Chapters 4.0 through 17.0 of this EIR. The potential environmental effects of the project are summarized in Chapter 2.0, Summary.

The alternatives analysis accounts for the potentially significant environmental effects of the alternatives as compared to the proposed project. Some of the potential environmental effects of the project, and the alternatives, are common to virtually all development in Livingston and would not vary from alternative to alternative. Similarly, certain environmental effects are addressed by routine requirements that would apply uniformly to any alternative. Since the focus of the alternatives analysis is comparison to the proposed project, issues that do not vary between the alternatives are not extensively analyzed.

> *Aesthetics and Visual Resources.* No significant aesthetic or visual resource issues were identified for the proposed project; therefore, this issue is not considered in detail in the alternatives analysis.
>
> *Cultural Resources and Tribal Cultural Resources*. Planned development has the potential to impact existing archaeological resources within the project site. These potential impacts can be avoided by mitigation measures typically required of development projects. As such, this issue is not considered in detail in the alternatives analysis.

Greenhouse Gas Emissions. Project impacts associated with greenhouse gases and global climate change are considered cumulative in character, rather than project-specific. Chapter 9.0, Greenhouse Gas Emissions, discusses potential impacts. No significant GHG emission issues were identified for the proposed project; therefore, this issue is not considered in detail in the alternatives analysis.

Hazards and Hazardous Materials. No significant hazards or hazardous material issues were identified for the proposed project; therefore, this issue is not considered in detail in the alternatives analysis.

Public Services and Recreation. No significant public service or recreation issues were identified for the proposed project; therefore, this issue is not considered in detail in the alternatives analysis.

18.3 ALTERNATIVES NOT CONSIDERED IN DETAIL

The following alternative was not addressed in detail, as it did not meet the criteria for detailed analysis defined above. That is, the following alternatives 1) would not meet most of the basic objectives of the project, 2) were clearly infeasible, or 3) did not have the ability to avoid or substantially lessen the significant environmental effects of the project.

18.3.1 Alternative Sites

CEQA Guidelines Section 15126.6(f)(2) indicates that alternative locations for a proposed project should be considered if any of the significant effects of the project would be avoided or substantially lessened at an alternative location. Only locations that have the potential to avoid or substantially reduce any of the significant effects of the project need be considered for inclusion in the EIR. As with all potential alternatives, project location alternatives must be reasonable, feasible, and able to meet most of the basic objectives of the project. The analysis may also consider the fact that a proposed project site is currently owned or controlled by the project developer.

Development of an alternative site would be consistent with the overall objectives of the project but not with existing developer control of the subject properties. The availability of an alternative site that would support the proposed development at a viable location sought by the project was considered; mainly, a site similar in acreage and zoned for multifamily residential development (R-3) within the City of Livingston.

There are no parcels in Livingston of similar size that are available for multifamily development. The few parcels available for such development are smaller in size, and as such would require a greater density of development to offer the same number of units as the proposed project. The greater density could lead to greater impacts associated with traffic, air quality, and noise, depending on location. Traffic impacts would be merely shifted from one area to another. The alternative sites may reduce environmental impacts related to conversion of agricultural land, but as discussed in Chapter 12.0 of this EIR,

this impact is not considered significant. Development of an alternative site may reduce impacts on Swainson's hawk nesting in the project vicinity, as described in Chapter 6.0, Biological Resources. However, other impacts, including biological resource impacts, may occur at alternative sites.

The project applicant has obtained control of the proposed project and has prepared site plans specifically for the proposed location. There are no other sites in the Livingston area that are of the necessary size and are available. Because of this, alternative sites were not analyzed further.

18.4 ALTERNATIVES CONSIDERED IN DETAIL

The alternatives to the proposed project that have been considered in detail are addressed in the following sections. The overall analysis is summarized in Table 18-1.

TABLE 18-1
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT IMPACTS

Issue Area	***Proposed Project***	**Alt 1: No Project/No Development**	**Alt 2: Reduced Development Alternative**	**Alt 3: Alternative Site Design**
Air Quality	*Less than significant with SJVAPCD rule implementation (NO_x operational emissions) and application of CEQA Guidelines Section 15152(d)*	Avoided	Reduced	No reduction
Biological Resources	*Potentially significant and unavoidable (Swainson's hawk)*	Avoided	No reduction	No reduction
Geology and Soils	*Less than significant with mitigation (soil erosion)*	Avoided	Reduced	No reduction
Hydrology and Water Quality	*Less than significant with mitigation (surface water quality)*	Avoided	Reduced	No reduction
Land Use and Population	*Less than significant with application of CEQA Guidelines Section 15152(d) (agricultural land)*	Avoided	No reduction	No reduction
Noise	*Less than significant*	Avoided	Potentially reduced	Reduced

	with mitigation (noise exposure)			
Transportation	*Less than significant with mitigation (intersection traffic)*	Avoided	Reduced	No reduction
Utilities and Energy	*Less than significant with agency coordination (Arena Canal)*	Avoided	Potentially avoided	Potentially avoided

18.4.1 No Project/No Development Alternative

CEQA Guidelines Section 15126.6(e) states that the alternatives analysis must include evaluation of a "no project" alternative. The definition of the No Project Alternative depends on the CEQA project being analyzed. If the CEQA project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, then the No Project Alternative is the continuation of the existing plan, policy, or operation. For a development project, the No Project Alternative typically compares the environmental impacts of the project site remaining in its existing state against the environmental impacts that would occur if the project is approved. Where failure to proceed with the project will not result in the preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval.

The project site is currently zoned R-3, a specific designation for multifamily development. While it is conceivable that other residential development could occur in an R-3 zone, it is unlikely that any residential development other than a multifamily development would occur on this site. Impacts of another multifamily development would be essentially the same as those of the proposed project. Therefore, for the purposes of this EIR, the No Project Alternative is defined as no development as proposed by the project, and no future development of the project site.

Since no development would occur under this alternative, there would be no impacts on existing conditions on the project site. No connections to City and other utilities would be made. No changes would be made to the segment of Main Street along the project site frontage, including curb, gutter, and sidewalk improvements. The Arena Canal would remain in its existing condition and would not be undergrounded. Environmental impacts associated with the proposed project would be avoided, particularly foraging and nesting habitat for Swainson's hawk, and construction noise and noise impacts on residential units. Traffic impacts would be reduced, with concurrent decreases in impacts on air quality. Since no ground disturbance would occur, soil erosion and potential attendant impacts on surface water quality would be avoided.

However, the No Project Alternative would meet none of the objectives of the proposed project, which would develop the site in accordance with the City General Plan and zoning. No residential development as proposed by the project would be contrary not only to the existing General Plan designation and zoning, but to policies in the Housing

Element that encourage multifamily development. It also could adversely affect housing availability, affordability, and overcrowding in Livingston. No development of the site would also mean that the City would realize no additional increase in revenue from property taxes.

Undeveloped land may have adverse aesthetic impacts, as it may attract illegal dumping and transient use. Also, grasses and weeds that remain on the project site would require ongoing maintenance to avoid a potential fire hazard. While the project site contains Farmland as defined in CEQA Guidelines Appendix G, the site is not zoned for agricultural use, and cultivating this land could lead to conflicts with nearby urban land uses.

In summary, while this alternative would avoid the environmental impacts of the proposed project, it would involve other impacts. It should be noted that potential environmental impacts of the proposed project would be reduced to levels that are less than significant with the implementation of mitigation measures, while still realizing the project objectives.

18.4.2 Reduced Development Alternative

Under this alternative, proposed development of the project site would be like the proposed project; however, proposed development would be reduced. Specifically, the proposed number of apartment units would be reduced. Based on the minimum density of 12 units per gross acre on property designated High Density Residential, the minimum number of apartment units that would be developed on the project site would be approximately 208. If each apartment building has 24 units, as with the proposed project, then nine buildings could be constructed with a total of 216 apartment units. The Reduced Development Alternative, therefore, assumes the construction of nine apartment buildings with a total of 216 units, or 264 fewer units than under the proposed project.

Many of the environmental impacts of the Reduced Development Alternative would be less than under the proposed project. Traffic would be reduced, thereby lessening impacts on City streets and intersections as well as on air quality. With less development, construction noise impacts would be reduced, and depending on the site design, residents would not be exposed to elevated noise levels from Main Street traffic. This alternative would involve less soil disturbance that could contribute to water quality impacts. Depending on the design for this alternative, impacts on the Arena Canal could be avoided.

However, the Reduced Development Alternative would have impacts similar to the proposed project. Utilities provided by the City and other agencies would need to be extended to the project site, and improvements to Main Street would be required. Potential nesting and foraging habitat for Swainson’s hawk would still be affected, and impacts on agricultural land would be the same. While traffic impacts would be reduced, there still may be adverse LOS impacts on intersections, though the existence and extent of such impacts are not known. Impacts on agricultural land would be the same under this

alternative as under the proposed project, although such impacts would still be considered less than significant with application of CEQA Guidelines Section 15152(d).

A potential issue of concern would be the Arena Canal. Undergrounding the canal under this alternative would be an expense that would be more difficult for the developer to recoup. However, leaving the canal as it currently exists may present a safety hazard, particularly for children.

This alternative would be consistent with the objectives of the proposed project, although the number of units would be substantially reduced. While the housing stock of Livingston would increase, development under this alternative would not have as great an impact on housing availability and affordability in Livingston. As with the proposed project, it would contribute to increased City property tax revenue, though at a lower level.

In summary, the Reduced Development Alternative would be consistent with the proposed project objectives and would reduce many of the environmental impacts of the proposed project. However, some of the project objectives would not be as fully achieved under this alternative, and some of the environmental impacts may remain significant without mitigation. It should be noted that potential environmental impacts of the proposed project would be reduced to levels that are less than significant with the implementation of mitigation measures, while still realizing the project objectives.

18.4.3 Alternative Site Design

This alternative would involve site designs for the proposed project that would avoid or substantially lessen one or more of its potentially significant effects, as identified in this EIR. One environmental impact that could be reduced under this alternative would be noise impacts on some residential units described in Chapter 13.0, Noise. This could be achieved by increasing the setback of residential buildings from Main Street, which would be the main source of noise exposure. Under this alternative, the number of apartment units (480) would remain the same as under the proposed project. To maintain this number of apartment units while incorporating the additional setback from Main Street, two options could be pursued:

- Add apartment units to some buildings on the project site.
- Relocate buildings close to Main Street to another portion of the project site.

Under this Alternative Site Design, the proposed housing stock would be increased by the same amount as under the proposed project; this alternative would contribute more than the other alternatives. In general, impacts would be the same as under the proposed project, which would mean that environmental impacts would require the same mitigation. Depending on the design for this alternative, impacts on the Arena Canal could be avoided.

However, the alternative site designs proposed above may have impacts of their own. The addition of apartment units to some of the onsite buildings may lead to a greater building

footprint, which would lead to greater soil disturbance and a reduction in open space. Alternatively, the buildings with the additional units may be designed at a greater height, which could lead to greater visual resource impacts. Additionally, people living on the upper story of these buildings would be required to climb more stairs, which could be a hardship for senior citizens and people with minor disabilities.

Relocation of buildings may be difficult, as the project site would have limited space available. One possibility would be to locate buildings in the site center, where the proposed project has retention basins. This would require a redesign of the onsite storm drainage system, which may involve connection to the City's storm drainage system or discharges into the Arena Canal. Both options have potentially significant environmental impacts, and the canal option would require approval from MID. In addition, this option would reduce the open space area on the site, thereby increasing impervious area and generating additional runoff. Swainson's hawk nesting and foraging habitat would remain impacted under this alternative.

Therefore, while this alternative is consistent with the project objectives and would reduce noise impacts, it would have similar significant environmental effects associated with the proposed project and could have additional impacts. It should be noted that mitigation measures in this EIR were recommended that would reduce potential impacts of the proposed project related to noise to a level that would be less than significant.

18.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As the No Project/No Development Alternative would eliminate or avoid most potential environmental effects associated with the proposed project, it would be considered the environmentally superior alternative. However, this alternative would meet none of the project objectives, while it could generate adverse environmental impacts of its own.

CEQA Guidelines Section 15126.6(e)(2) states that an environmentally superior alternative shall be identified among other alternatives if the No Project Alternative is considered the environmentally superior alternative. Based on the analysis presented above, the Reduced Development Alternative would be the environmentally superior alternative.

19.0 OTHER CEQA ISSUES

19.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

CEQA Guidelines Section 15126.2(b) states that an EIR shall discuss significant environmental effects that cannot be avoided if a proposed project is implemented. This includes significant impacts that can be mitigated but not reduce to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, the implications of these impacts, and the reasons why the project is being proposed notwithstanding their effects, should be described.

Table 2-1 identifies all the potentially significant environmental effects of the project and the mitigation measures to address the identified significant effects. In all but one case, the proposed mitigation measures would be effective in reducing potential environmental effects to levels that would be less than significant. The one significant and potentially unavoidable impact was on Swainson's hawk nesting and foraging habitat, as described in Chapter 6.0, Biological Resources. Measures to reduce potential impacts were recommended, but the project applicant has expressed concern about the economic feasibility of implementing these recommendations.

As discussed in Chapter 17.0, Cumulative Impacts, significant and unavoidable impacts on air quality and agricultural resources were identified for development associated with the Livingston General Plan. However, in accordance with CEQA Guidelines Section 15152(d), this EIR focused on project-specific effects, which were found to be less than significant for these two issues.

19.2 IRREVERSIBLE ENVIRONMENTAL COMMITMENTS

CEQA Guidelines Section 15126.2(c) states that an EIR shall discuss significant irreversible environmental changes which would be involved in a proposed project should it be implemented. CEQA Guidelines Section 15126.2(c) states, in part:

> "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

The project would involve the irreversible commitment of construction materials to the construction of buildings, parking spaces, and supporting infrastructure. Construction materials would involve sand and gravel, concrete, asphalt, plastics, and metals, along with renewable resources such as wood. These materials would not be used in highly significant or unusual quantities when compared to similar projects and would be obtained from existing commercial sources. Some of these materials could be recycled if some or all the project facilities were demolished in the future, such as concrete and metals. As noted in Chapter 16.0, Utilities and Energy, the City requires specified projects to reuse or recycle at least 50% of all construction and demolition debris.

The project would involve significant irreversible environmental changes, mainly the conversion of land formerly used for agricultural production to urban commercial uses. This would involve an irreversible commitment of the project site to developed uses; subdivision of the site and investment in streets and utilities would likely prohibit any future return to agricultural use. However, as discussed in Chapter 5.0, Agricultural Resources, the project site is not classified Farmland as defined in the Environmental Checklist in CEQA Guidelines Appendix G.

Commitment of the project site to urban uses would involve an essentially irreversible loss of open space and the potential biological resource values associated with it. As discussed in Chapter 6.0, Biological Resources, the project may have significant and unavoidable impacts on Swainson's hawk nesting and foraging habitat (see Section 19.1 above for more information). Development of the site would involve an essentially irreversible reduction in groundwater recharge and increases in runoff during rainfall events. Groundwater recharge losses are not considered significant, and potential increases in runoff would be mitigated to a level that would be less than significant, as documented in Chapter 11.0, Hydrology and Water Quality.

There are no other changes associated with the project, or resources impacted by the project, that are irreversible, other than the use of energy during project construction and operations. Energy use is discussed in Chapter 16.0, Utilities and Energy.

19.3 GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126.2(d) requires an EIR to discuss the potential growth-inducing impacts of a project or program. "Growth-inducing impacts" are ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. CEQA Guidelines Section 15126.2(d) further notes that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth can be induced in a variety of ways. New development can create demands for other types of development. For example, new industrial development which provides jobs may attract new residents to an area, creating a demand for more housing. The same project in an area with a readily available supply of labor may have no growth-inducing effect at all. Development of new amenities, such as recreational facilities, can spur

development of new housing for people wishing to take advantage of them. In a more general sense, new urban development in rural areas may induce growth by providing both a nucleus for a change in land use and economic incentives for conversion of nearby agricultural lands.

Growth may also be induced through the removal of obstacles to development. One potential obstacle is the lack of utilities or infrastructure to support development. The provision of new utilities or other infrastructure that can serve development, particularly in an area that is undeveloped, may induce growth. For example, construction of new or larger domestic water systems to unserved areas may facilitate development of these areas. Expansion of other utility systems, like electrical systems, can have similar effects. But in some cases, the extension of new infrastructure may not have a distinguishable growth-inducing effect, outside of its indirect contribution as an element of the proposed development.

Chapter 12.0, Land Use, analyzed the potential effects of the project on population and housing. The conclusion was that project impacts on population and housing would be less than significant, as the project is unlikely to induce population growth or housing development that is not planned for by the Livingston General Plan. As described in Chapter 16.0, Utilities and Energy, infrastructure already exists at the project site; no utility lines would be extended that could induce growth elsewhere in the area. Because of this, the project would not have a growth-inducing impact.

19.4 ENVIRONMENTAL JUSTICE

The State of California has recently emphasized the incorporation of environmental justice in land use and environmental planning. State law defines "environmental justice" as "the fair treatment of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Low-income residents, communities of color, tribal nations, and immigrant communities have historically experienced disproportionate environmental burdens and related health problems. This inequity has resulted from many factors, including inappropriate zoning and incomplete land use planning, which has led to development patterns that concentrate pollution emissions and environmental hazards in communities that have not had the political power to protect themselves. Although environmental justice is not an issue that is explicitly incorporated within CEQA, it is discussed in this EIR due to the potential connections between environmental justice and project environmental impacts.

Relevant State Laws and Local Plans

SB 535 – Disadvantaged Communities

In 2012, the Legislature passed SB 535, directing that 25 percent of the proceeds from the Greenhouse Gas Reduction Fund go to projects that provide a benefit to "disadvantaged

communities." To assist in identifying a disadvantaged community for the purposes of SB 535, the California Office of Environmental Health Hazard Assessment has developed the California Communities Environmental Health Screening Tool (CalEnviroScreen). CalEnviroScreen measures pollution and population characteristics using 20 indicators such as air and drinking water quality, waste sites, toxic emissions, asthma rates, and poverty. It applies a formula to each U.S. Census tract in California to generate a score that rates the level of cumulative impacts on each area. A census tract with a higher score is one that experiences higher pollution burdens and vulnerability than one with a lower score. A census tract that scores in the top 25% under the CalEnviroScreen formula is considered a disadvantaged community.

The project site is within Census Tract 6047000304, which includes most of the City of Livingston and some adjacent rural areas. This Census tract has a CalEnviroScreen score in the 80-85 percentile, which makes it a disadvantaged community as defined by SB 535. The tract, the population of which is 73% Hispanic and 16% Asian American, had high indicator scores related to $PM_{2.5}$, pesticides, drinking water, and ozone pollution. Unemployment, education, and linguistic isolation also were issues of concern (OEHHA 2020).

SB 1000 – Environmental Justice and General Plans

SB 1000, signed into law in 2016, requires cities and counties to adopt an Environmental Justice element or to integrate environmental justice goals, objectives, and policies into other elements of their General Plans. The Environmental Justice Element or integrated EJ policies must reduce the unique or compounded health risks in disadvantaged communities by addressing at minimum the following topics: Pollution Exposure and Air Quality, Public Facilities, Food Access, Safe and Sanitary Homes, Physical Activity, Civil or Community Engagement, and Improvements and Programs That Address the Needs of Disadvantaged Communities.

City of Livingston General Plan Update

As noted in Chapter 12.0, Land Use and Population, the City of Livingston is in the process of updating its General Plan. One of the issues the General Plan update will address is social equity, defined as "fairness and justice in the way people are treated. In the context of planning, this means both ensuring access and breaking barriers to resources and opportunities to a healthy and prosperous life." The City has identified public health issues such as asthma, diabetes, and obesity, along with access to healthy foods and to parks and recreational facilities to promote physical activity (City of Livingston 2020). As required by State law, an Environmental Justice element will be included as part of the City of Livingston General Plan update currently in progress.

Analysis and Conclusions

As noted, the project site is within a Census tract that is a disadvantaged community as defined by SB 535. Project impacts related to environmental burdens on the disadvantaged community are described below.

- Air pollutant emissions generated by the project could adversely affect nearby residents. Specifically, NO_x is a component of ozone, which was identified as an environmental burden. As described in Chapter 5.0, Air Quality, project operational emissions of NO_x would exceed SJVAPCD significance thresholds, which were established, in part, to ensure that project emissions did not interfere with the implementation of air quality management plans designed to meet federal and State air quality standards. However, with implementation of SJVAPCD Rule 9510, project operational NO_x emissions would be below its significance threshold.

- $PM_{2.5}$ emissions were identified as another environmental burden. However, as noted in Chapter 5.0, the CalEEMod results indicate that project $PM_{2.5}$ emissions would be substantially below the significance threshold for $PM_{2.5.}$ In addition, project features plus compliance with applicable SJVAPCD rules and regulations would further reduce $PM_{2.5}$ emissions, thereby further reducing health risks.

- Another project impact that could adversely affect well-being in the community is increased noise from project operations. As discussed in Chapter 13.0, Noise, project impacts would be less than significant with implementation of mitigation measures.

- Pesticide exposure was identified as a significant environmental burden on the community. The project would eliminate one potential source of pesticide use, as existing agricultural land on the project site would be converted to urban use. It also would likely reduce pesticide impacts on drinking water in the area. Surrounding agricultural lands could continue using pesticides. All pesticides used in the United States must be registered (licensed) by EPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, and will not cause unreasonable harm to the environment (Merced County 2013c). Additionally, the County Agricultural Commissioner regulates agricultural uses and issues use permits for pesticides on agricultural land. The commissioner's staff conducts routine inspections to ensure that farm operations comply with pesticide requirements (Merced County 2013c).

- The project proposes to collect stormwater runoff into detention basins, where runoff would either percolate into the ground or evaporate. It is expected that this would reduce potential contamination of aquifers in the area and minimize impacts on drinking water.

As noted above, SB 1000 recommends the integration of a minimum of seven environmental justice topics in land use planning. Some of these topics are connected to potential project impacts on the physical environment. Table 19-1 lists the SB 1000

environmental justice topics potentially relevant to CEQA analysis and the project's impacts related to these topics.

TABLE 19-1
SB 1000 TOPICS AND PROJECT IMPACTS

SB 1000 Topic	Project Impacts
Pollution Exposure and Air Quality	The project would generate air pollutant emissions that are below SJVAPCD significance thresholds designed to assist in achieving federal and state air quality standards. The project site is not located near any major air pollution or toxics emission sources. The project would connect to the City's water system and would have its own detention basins for runoff, so water pollution is not an issue. While the project is near agricultural fields, it is in a developing area with no industrial activities, so exposure to potentially toxic chemicals would be minimal (Chapter 5.0, Air Quality; Chapter 10.0, Hazards; Chapter 11.0, Hydrology; Chapter 16.0, Utilities).
Public Facilities	The project would be connected to the City's water and wastewater systems. It would not be located near any undesirable land uses such as landfills or waste collection facilities. The project would be near the Livingston High School and playing fields, providing close access to school and park facilities. Project would improve the adjacent segment of Main Street with sidewalks and a bicycle lane (Chapter 14.0, Public Services; Chapter 15.0, Transportation; Chapter 16.0, Utilities).
Food Access	No effects relevant to this issue.
Safe and Sanitary Homes	Project would provide a substantial number of affordable new housing units in a community that has limited housing and potential overcrowding, as indicated by a higher number of persons per household than elsewhere in Merced County. Housing units would not be exposed to substantial pollution sources such as industrial activities (Chapter 11.0, Hazards; Chapter 13.0, Land Use).
Physical Activity	Project would be located near school and recreational facilities. Improvements would be made to adjacent segment of Main Street that would provide improved pedestrian and bicycle facilities (Chapter 14.0, Public Facilities; Chapter 15.0, Transportation).
Civil or Community Engagement	No effects relevant to this issue.
Improvements and Programs That Address the Needs of Disadvantaged Communities	No effects relevant to this issue.

The project is proposed for construction in an area that is relatively undeveloped compared to other parts of the City. Since the project is a residential project, it is unlikely

to place additional environmental burdens on the community, unlike for instance an industrial project. This EIR evaluated potential environmental impacts of the projects, and no significant impacts of any type were identified that could not be mitigated to a level that would be less than significant, other than impacts on a specific bird species. The project would have no significant adverse impacts on environmental justice communities in the City and vicinity, and the project is expected to have some beneficial impacts on such communities.

20.0 SOURCES AND PREPARERS OF THE EIR

20.1 REFERENCES CITED

AM Consulting Engineers. 2016. City of Livingston 2015 Urban Water Management Plan. October 2016.

Bryant, William A. and Earl W. Hart. 2007. Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps. Department of Conservation, California Geological Survey Special Publication 42. Interim Revision 2007.

California Air Pollution Control Officers Association (CAPCOA). 2009. Model Policies for Greenhouse Gases in General Plans: A Resource for Local Government to Incorporate General Plan Policies to Reduce Greenhouse Gas Emissions. June 2009.

California Air Resources Board (ARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

_____. 2008a. 2008 California Toxics Inventory. Available online at http://www.arb.ca.gov/ei/cti.xls.

_____. 2008b. Climate Change Scoping Plan: A Framework for Change. Adopted December 2008.

_____. 2013. 2012 Estimated Annual Average Emissions, San Joaquin Valley Air Basin. Published in 2013.

_____. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. May 2014.

_____. 2016. Ambient Air Quality Standards. June 4, 2016.

_____. 2017. California's 2017 Climate Change Scoping Plan. November 2017.

_____. 2020a. CEPAM: 2016 SIP - Standard Emission Tool, Emission Projections by Summary Category. Available online at https://www.arb.ca.gov/app/emsinv/fcemssumcat/cepam_emssumcat_query_v5.php. Accessed December 22, 2020.

_____. 2020b. California Greenhouse Gas Emissions for 2000 to 2018.

California Department of Conservation. 2016. The California Land Conservation Act of 1965, 2016 Status Report. December 2016.

California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program. 2018. Merced County Important Farmland 2016, Sheet 1 of 2 (map). February 2018.

California Department of Finance. 2019. Report E-5 - Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2019, with 2010 Benchmark. Released May 1, 2019.

California Department of Forestry and Fire Protection (Cal Fire). 2007a. Fire Hazard Severity Zones in SRA, Merced County (map). Adopted November 7, 2007.

_____. 2007b. Draft Fire Hazard Severity Zones in LRA, Merced County (map). October 2, 2007.

California Department of Resources, Recycling, and Recovery (CalRecycle). 2016a. Facility/Site Summary Details: Billy Wright Disposal Site. Available at http://www.calrecycle.ca.gov/SWFacilities/Directory/24-AA-0002/Detail/. Accessed September 23, 2018.

_____. 2016b. Facility/Site Summary Details: Highway 59 Disposal Site. Available at http://www.calrecycle.ca.gov/SWFacilities/Directory/24-AA-0001/Detail/. Accessed September 23, 2018.

California Department of Toxic Substances Control (DTSC). 2018. EnviroStor database, www.envirostor.dtsc.ca.gov. Accessed September 23, 2018.

California Department of Transportation (Caltrans). 2015. Paleontological Evaluation Report and Preliminary Paleontological Mitigation Plan for the Madera 41 South Expressway Project, Madera County, California. Prepared by Cogstone Resource Management Inc. November 2015.

_____. 2018. List of Officially Designated State Scenic Highways. Available online at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm. Accessed September 23, 2018.

California Department of Water Resources (DWR). 2018. California's Groundwater. DWR Bulletin 118. Last update June 2017.

California Energy Commission (CEC). 2018a. Electricity Consumption by County – Merced County. Available online at ecdms.energy.ca.gov/elecbycounty.aspx. Accessed November 13, 2019.

_____. 2018b. Gas Consumption by County – Merced County. Available online at ecdms.energy.ca.gov/gasbycounty.aspx. Accessed November 13, 2019.

California Environmental Protection Agency (CalEPA). 2016a. Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit. Available online at http://www.calepa.ca.gov/SiteCleanup/CorteseList/CurrentList.pdf. Accessed September 23, 2018.

_____. 2016b. List of "Active" CDO and CAO from Water Board. Available online at http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm. Accessed September 23, 2018.

California Geological Survey. 1999. Mineral Land Classification of Merced County, California. DMG Open File Report 99-08.

_____. 2018. CGS Information Warehouse: Regulatory Maps. Available online at http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed September 22, 2018.

Central California Information Center. 2018. Re: Project: GDR Engineering Project, Sanghera Apartments, E. Main St., Livingston, CA, APN 047-280-029. September 7, 2018.

City of Livingston. 1999a. Livingston General Plan. Adopted December 1999.

_____. 1999b. Final Environmental Impact Report, Livingston General Plan Update. SCH No. 99042020. November 1999.

_____. 2007a. Storm Water Management Program for the City of Livingston. February 2007.

_____. 2007b. Livingston Park and Recreation Master Plan. Prepared by Moore Iacofino Goltsman, Inc.

_____. 2007c. City of Livingston Wastewater Collection System Master Plan. Prepared by Carollo Engineers. July 2007.

_____. 2016a. City of Livingston Housing Element Update. Adopted June 21, 2016.

_____. 2016b. City of Livingston 2015 Urban Water Management Plan. Prepared by AM Consulting Engineers, Inc. August 2016.

_____. 2018. City of Livingston Municipal Service Review Update, Draft Report. Prepared for Merced County Local Agency Formation Commission by Economic & Planning Systems, Inc. February 2018.

_____. 2019. Annual Water Quality Report. Reporting Year 2018.

_____. 2020. City of Livingston 2040 General Plan Existing Conditions and Trends Workbook, Public Review Draft. September 2020.

EdData. 2020. Census Day Enrollment. Available online at ed-data.org/school/Merced/. Accessed March 6, 2020.

Federal Emergency Management Agency. 2008. Flood Insurance Rate Map (FEMA #06047C0200G). Merced County, California. Map revised December 2, 2008.

Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January 2006.

Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. May 2006.

Fimrite, Peter. 1996. "Infamous Blood Alley to Disappear/New Bypass around Highway 99 Stoplight." SF Gate, November 4, 1996.

GeoSearch. 2018a. GeoPlus Oil and Gas Report. Target Property: 2974 Sanghera Apartments, Main St., Livingston, Merced County, California 95334. September 7, 2018.

_____. 2018b. GeoPlus Water Well Report. Target Property: 2974 Sanghera Apartments, Main St., Livingston, Merced County, California 95334. September 7, 2018.

Governor's Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018.

Harris, Cyril M. 1991. Handbook of Acoustical Measurements and Noise Control. McGraw-Hill, Inc., New York.

KD Anderson and Associates, Inc. 2020. Traffic Impact Study for the Sanghera Apartment Project, Livingston, CA. March 12, 2020.

Livingston Union School District (LUSD) 2016. LUSD Facilities Master Plan. Prepared by Darden Architects and School Facility Consultants. November 2016.

Merced County. 2013a. 2030 Merced County General Plan. December 10, 2013.

_____. 2013b. 2030 Merced County General Plan Update Recirculated Draft Program Environmental Impact Report. July 2013.

_____. 2013c. 2030 Merced County General Plan Background Report. December 10, 2013.

Merced County Airport Land Use Commission (ALUC). 2012. Merced County Airport Land Use Compatibility Plan. Prepared by Mead and Hunt, Inc. Adopted June 21, 2012.

Merced County Association of Governments (MCAG). 2017. Final Report, Merced County 2017/18 – 2021/22 Short Range Transit Plan. Prepared by LSC Transportation Consultants, Inc. June 30, 2017.

_____. 2018a. Regional Transportation Plan/Sustainable Communities Strategy for Merced County.

_____. 2018b. Draft Program Environmental Impact Report for the MCAG 2018 Regional Transportation Plan/Sustainable Communities Strategy. May 2018.

Merced County Fire Department. 2019. 2018 Annual Report. April 8, 2019.

Merced County Department of Agriculture. 2018. 2018 Report on Agriculture.

Merced Irrigation District. 2015. Well Source Areas (map). March 26, 2015.

_____. 2020. Merced Irrigation District of California Annual Budget – Fiscal Year 2021. Approved by Board of Directors on March 9, 2020.

Merced Sustainable Groundwater Management Agency (SGMA). 2019. Merced Groundwater Subbasin Groundwater Sustainability Plan. Prepared by Woodard and Curran. November 2019.

Merced Union High School District (MUHSD). 2020. Development Fee Justification Study. Prepared by Odell Planning and Research, Inc. May 2020.

Moore Biological Consultants. 2020. "The Village at Main," Livingston, California: Biological Assessment. May 12, 2020.

National Oceanic and Atmospheric Administration (NOAA). 2019. Monthly Average Mauna Loa CO_2. Data collected by Earth System Research Laboratory, Global Monitoring Division. Available online at https://www.esrl.noaa.gov/gmd/ccgg/trends/. Accessed July 25, 2019.

RMC Water and Environment. 2013. Merced Integrated Regional Water Management Plan. August 2013.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2008. Climate Change Action Plan Staff Report. November 2008.

_____. 2009. Final Staff Report – Climate Change Action Plan: Addressing Greenhouse Gas Emissions Impact under the San Joaquin Valley Air Pollution Control District.

_____. 2015. Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). March 19, 2015.

_____. 2018. 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards. November 15, 2018.

_____. 2020. Ambient Air Quality Standards and Valley Attainment Status. Available online at http://www.valleyair.org/aqinfo/attainment.htm. Accessed August 7, 2020.

State Water Resources Control Board (SWRCB). 2018. GeoTracker website, www.geotracker.swrcb.ca.gov. Accessed September 22, 2018.

United Nations Intergovernmental Panel on Climate Change (IPCC). 2001. Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change.

_____. 2004. "16 Years of Scientific Assessment in Support of the Climate Convention." December 2004.

_____. 2015. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

U.S. Department of Agriculture. 2019. 2017 Census of Agriculture. California, State and County Data, Volume 1 – Geographic Area Series, Part 5. Issued April 2019.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). 2020. Custom Soil Resource Report for Merced Area, California. March 9, 2020.

U.S. Department of Agriculture, Soil Conservation Service (SCS). 1962. Soil Survey, Merced Area, California. Issued July 1962.

U.S. Energy Information Administration (EIA). 2017. California State Energy Profile. Last updated October 19, 2017.

_____. 2018. 2015 Residential Energy Consumption Survey: Energy Consumption and Expenditures Tables. Table CE4.10: Annual household site end-use consumption by fuel in the West - averages, 2015. Release date May 2018.

U.S. Environmental Protection Agency (EPA). 2009. Endangerment and Cause of Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. Federal Register Vol. 74, No. 239, pp. 66496-66546. December 15, 2009.

Wagner, D. L., E. J. Bortugno, and R. D. McJunkin. 1991. Geologic Map of the San Francisco-San Jose Quadrangle, California, 1:250,000. California Division of Mines and Geology, Regional Geologic Map Series.

Westerling, Leroy, Josue Medellin-Azuara, Joshua Viers. 2018. San Joaquin Valley Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-003.

20.2 PERSONS CONSULTED

Randy Hatch, Contract City Planner, City of Livingston Community Development Department

Josh Jantz, Associate Planner, GDR Engineering

Noe Martinez, City Engineer. Gouveia Engineering

20.3 EIR PREPARERS

This IS/MND was prepared by BaseCamp Environmental, Inc. for use by and under the supervision of the City of Livingston Department of Community Development. The following persons were involved in preparation of the IS/MND:

City of Livingston Department of Community Development

Randy Hatch, Contract City Planner
Filomena Arredondo, Senior Administrative Analyst

BaseCamp Environmental, Inc.

Charlie Simpson, Principal
Terry Farmer, AICP, Senior Environmental Planner
August McNab, Environmental Planner
Krista Simpson, Graphic Artist

APPENDIX A
NOTICE OF PREPARATION AND NOP COMMENTS

Notice of Preparation

To: Distribution List

(Address)

From: City of Livingston
1416 C Street
Livingston, CA 95334
(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

The City of Livingston will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in **Attachment A**. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Randy Hatch, Contract City Planner at the address shown above. We will need the name for a contact person in your agency.

Project Title: The Villages at Main Street

Project Applicant, if any: Sake Sanghera

Date January 20, 2021

Signature Randy Hatch

Title Contract City Planner

Telephone (209) 394-8041 x123

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

ATTACHMENT A

NOTICE OF PREPARATION FOR AN ENVIRONMENTAL IMPACT REPORT FOR THE VILLAGE AT MAIN APARTMENT PROJECT

PROJECT DESCRIPTION

The proposed Village at Main Apartment project is located on a site consisting of two parcels totaling 17.3 acres. The site is located immediately east of Main Street south of its intersection with Peach Avenue in southern Livingston (Figures 1-5). The project proposes the construction of 480 apartment units with associated facilities and landscaping (Figure 6). The project would consist of 20 three-story apartment buildings, all approximately 39 feet in height and each having 24 units. The apartment complex as a whole would include 84 one-bedroom units, 300 two-bedroom units, and 96 three-bedroom units. A two-story 6,343 square foot community building approximately 29 feet in height would be located near the center of the project site. The community center would include a community patio, an outdoor pool and a spa.

Access to the apartment complex would be provided by a main driveway, approximately 50 feet in width, located centrally along the Main Street frontage. Two other emergency vehicle use only access points would be provided from Main Street - one north of the main entrance and one south; emergency access would be obtained via a Knox box. The project would provide 587 parking stalls for residents and visitors, of which 453 would be covered and the remaining 134 would be uncovered.

The proposed project would connect to nearby existing City water and sewer lines and will include installation of an onsite storm drainage collection system and two retention basins near the center of the project. An interconnecting French drain system will facilitate percolation of retained runoff into the ground. Landscaping would be incorporated throughout the project site. All lighting structures for the apartment complex would be shielded to direct light and glare towards the ground.

The project would include improvements to the segments of Main Street along the project site frontage. South of the main entrance, Main Street would be widened from 55 feet to 110 feet, with four 12-foot-wide vehicle lanes, one 16-foot-wide median/turn lane, 8-foot-wide bike lanes on each side, and 15-foot-wide areas with sidewalks and landscaping on each side. Curb and gutter would be installed on both sides of the improved segment. From the main entrance north, Main Street would be widened from 30 feet to 85 feet with two 12-foot-wide vehicle lanes, two 15-foot-wide vehicle lanes, one 8-foot-wide median, one 8-foot-wide bike lane on the east side, and one 15-foot-wide area with a sidewalk between two landscape strips on the east side. Curb and gutter would be installed only on the east side.

The project also proposes to demolish and replace approximately 830 feet of the concrete-lined Arena Canal, owned by the Merced Irrigation District, with an 84-inch diameter concrete irrigation pipeline. The pipeline would be located within the existing canal easement and buried underground.

The project would require approval of a Conditional Use Permit by the City of Livingston. The project also would require City site plan and design review. Demolition and piping of the segment of Arena Canal on the project site would require approval from the Merced Irrigation District.

ISSUES TO BE ADDRESSED IN THE EIR

The EIR, will consider the potential environmental effects, mitigation measures needed, and alternatives to the proposed project. Concerns to be addressed in the EIR are summarized below:

Aesthetics and Visual Resources

The EIR will consider the size and architectural character of proposed structures and site improvements and their consistency with surrounding development and City of Livingston design standards, together with potential lighting impacts on surrounding land uses.

Air Quality

The EIR will quantify construction and operational air pollutant emissions associated with the project and their relationship to state and federal standards, exceedance of applicable emissions thresholds, carbon monoxide concentrations at nearby intersections, exposure of nearby land uses to potential air pollutant and toxic air contaminant emissions, and odors.

Biological Resources

The EIR will include a biological assessment of the project, including consideration of the potential impacts of proposed development on habitat for special-status and migratory species, wetlands, and other sensitive habitats. The analysis will consider applicable local ordinances and conservation plans, if any, that protect biological resources.

Cultural Resources and Tribal Cultural Resources

The EIR will consider the potential impacts of proposed development on known and as yet-undiscovered historical and/or archaeological resources. The EIR will also consider potential impacts on tribal cultural resources and will document City compliance with the AB 52 tribal cultural resource notification process if required.

Geology, Soils, and Mineral Resources

The EIR will describe the general geology of the project area, geotechnical and seismic hazards, soil quality and erosion potential, suitability of soil for development, potential

project impact on accessibility of mineral resources, and potential effects on unique geological or paleontological resources.

Greenhouse Gas Emissions

The EIR will quantify and identify the significance of construction and operational GHG emissions associated with the project and the project's consistency with applicable GHG management plans.

Hazards and Hazardous Materials

The EIR will document the presence or absence of documented environmental contamination on and near the project site, including potential surface soil contamination from agricultural use. Use, storage, and transportation of hazardous materials associated with the proposed project will be evaluated, along with potential project impacts on emergency vehicle access and evacuation routes. The EIR will document existing or potential future exposure to wildfire hazards associated with the project.

Hydrology and Water Quality

The EIR will describe the surface and groundwater hydrologic resources of the project site and vicinity, as well as potential for exposure to 100-year and 200-year flooding hazards. Direct effects to surface and groundwater resources, if any, will be described, as will storm water volume and quality and conformance with adopted City of Livingston storm water quality standards.

Land Use, Agriculture/Forestry, Population, and Housing

The EIR will analyze project consistency with the Livingston General Plan, zoning, and other applicable land use plans and ordinances, along with the potential direct and indirect impacts on population growth and housing needs. Proposed development will involve conversion of agricultural land to urban residential use. The EIR will consider these concerns in the context of the City's analysis of agriculture-related issues in the Livingston General Plan EIR, along with the potential for indirect conversion of agricultural land.

Noise

The EIR will describe the existing noise environment and the potential effects of project construction and operation on sensitive land uses adjacent to and near the project. The analysis will consider noise impacts associated with the proposed development, including impacts of increased traffic on roadway noise, and the effects of roadway noise increases on land uses along primary project traffic routes.

Public Services and Recreation

The EIR will describe existing public service providers that would be responsible for services for the proposed project. The EIR will consider the need for new or expanded facilities required for agencies responsible for fire protection, police protection, schools,

and parks and recreation, and the potential impacts of addition of any new or expanded public facilities on the environment.

Transportation

The EIR will describe the location, nature, and operation of existing transportation systems serving the project site and vicinity. The EIR will quantify and consider the generation of traffic from the project and its impacts on traffic flow on streets and intersections in the project vicinity. It also will evaluate consistency with applicable transportation plans, impacts on or related to alternative travel modes, and the vehicle miles traveled impacts of the project.

Utilities and Energy

The EIR will describe existing and planned utility systems serving the project site and vicinity. The EIR will identify any necessary extension of water, wastewater, storm drainage, solid waste, and other utilities and their potential environmental impacts. The EIR will consider and discuss estimated energy consumption associated with project construction and operations, as well as conservation measures that would be incorporated. The EIR will identify the project potential for wasteful or inefficient use of energy, if any.

Cumulative Impacts

The EIR will consider the potential cumulative impacts of the project in all the above-listed resource areas, based primarily on the analysis of citywide environmental effects in the Livingston General Plan EIR.

Alternatives to the Proposed Project

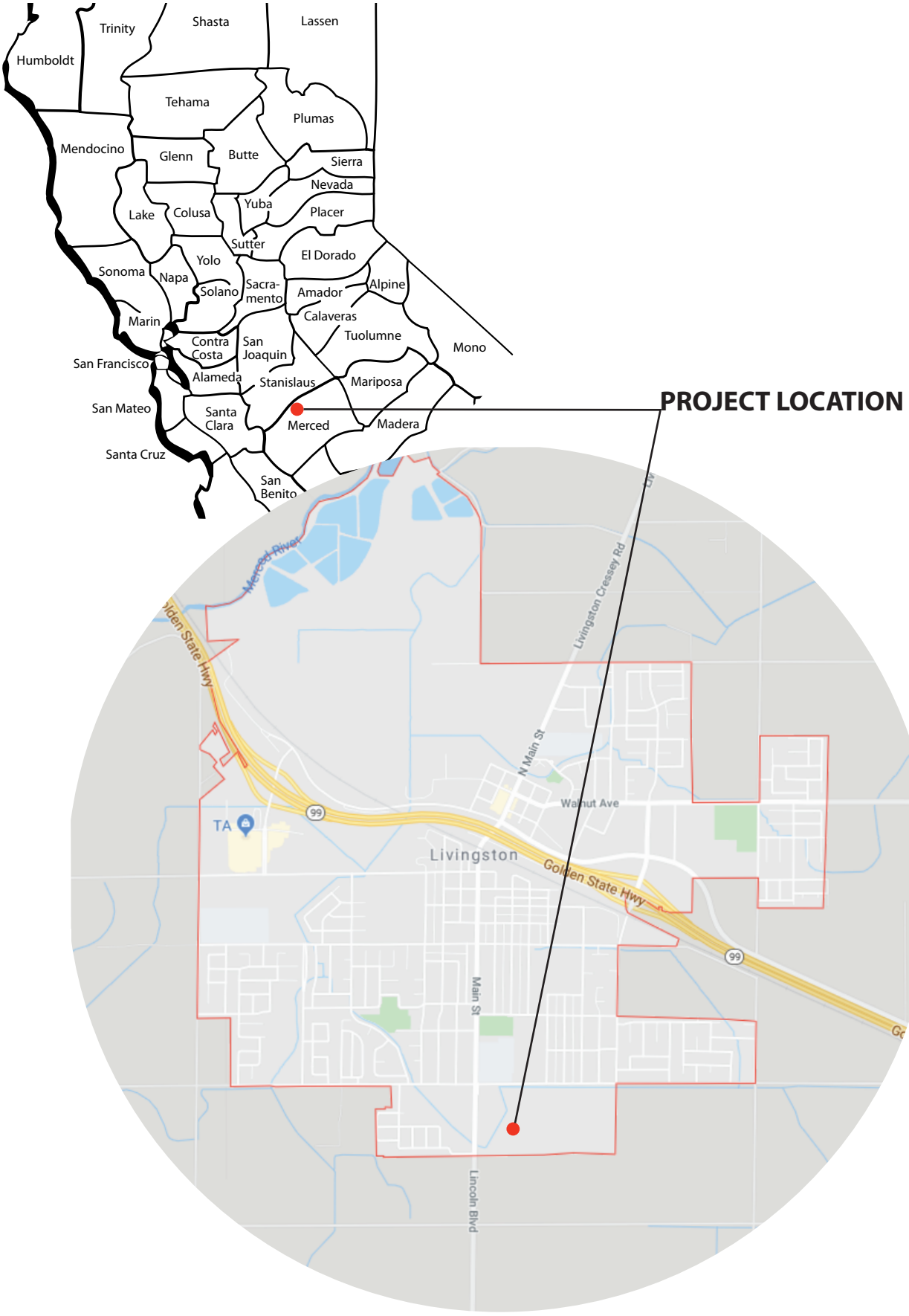
The EIR will evaluate the comparative environmental effects of reasonable range of alternatives to the proposed project.

Growth-Inducing Impacts

The EIR will include consideration of the potential effects of the proposed industrial development on planned or potential urban development in the Livingston area.

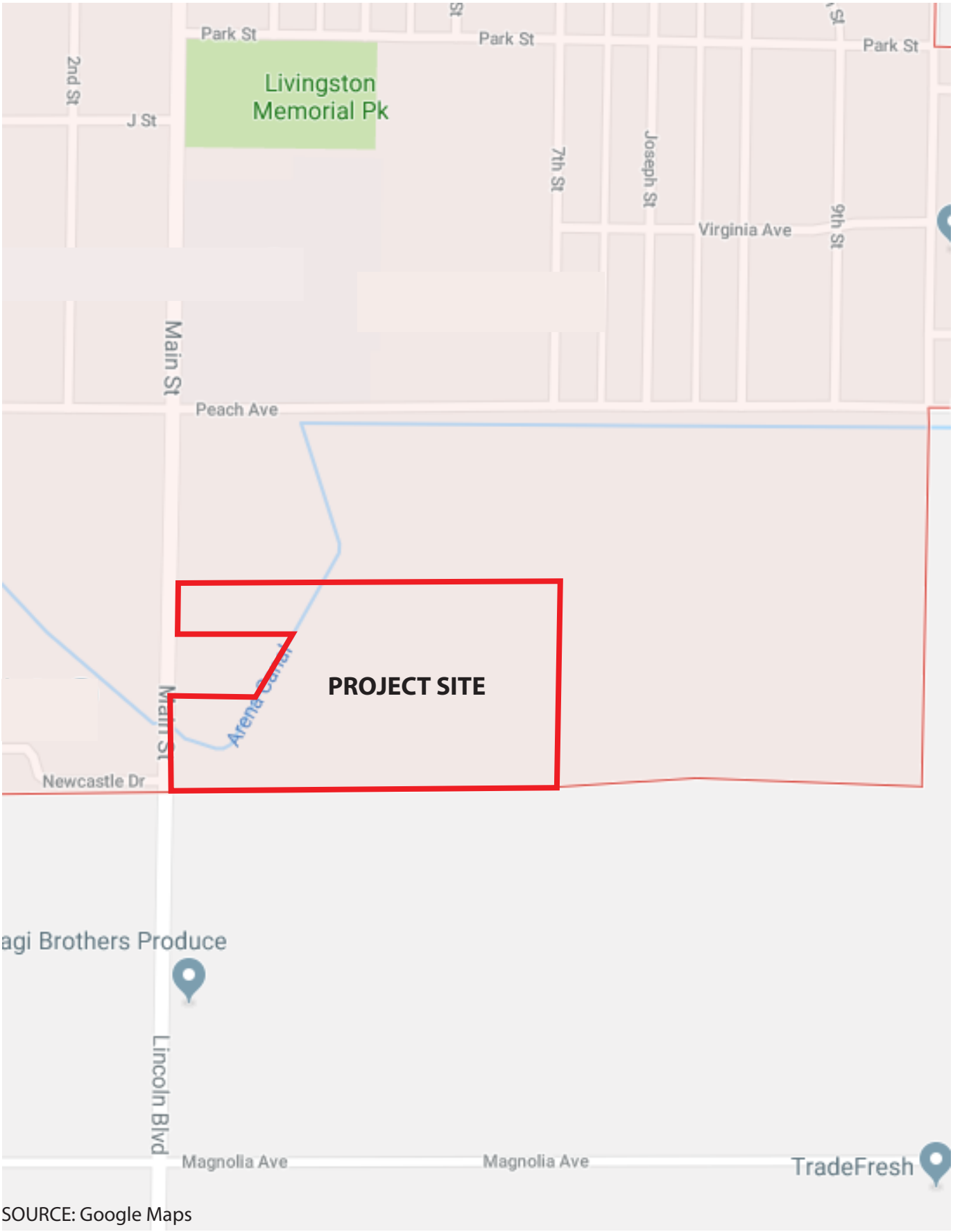
Environmental Justice

Development project impacts related to environmental justice have received increased attention from the State of California. The EIR will identify any environmental justice issues associated with the project, including disadvantaged communities in the area and potential adverse environmental impacts on such communities.



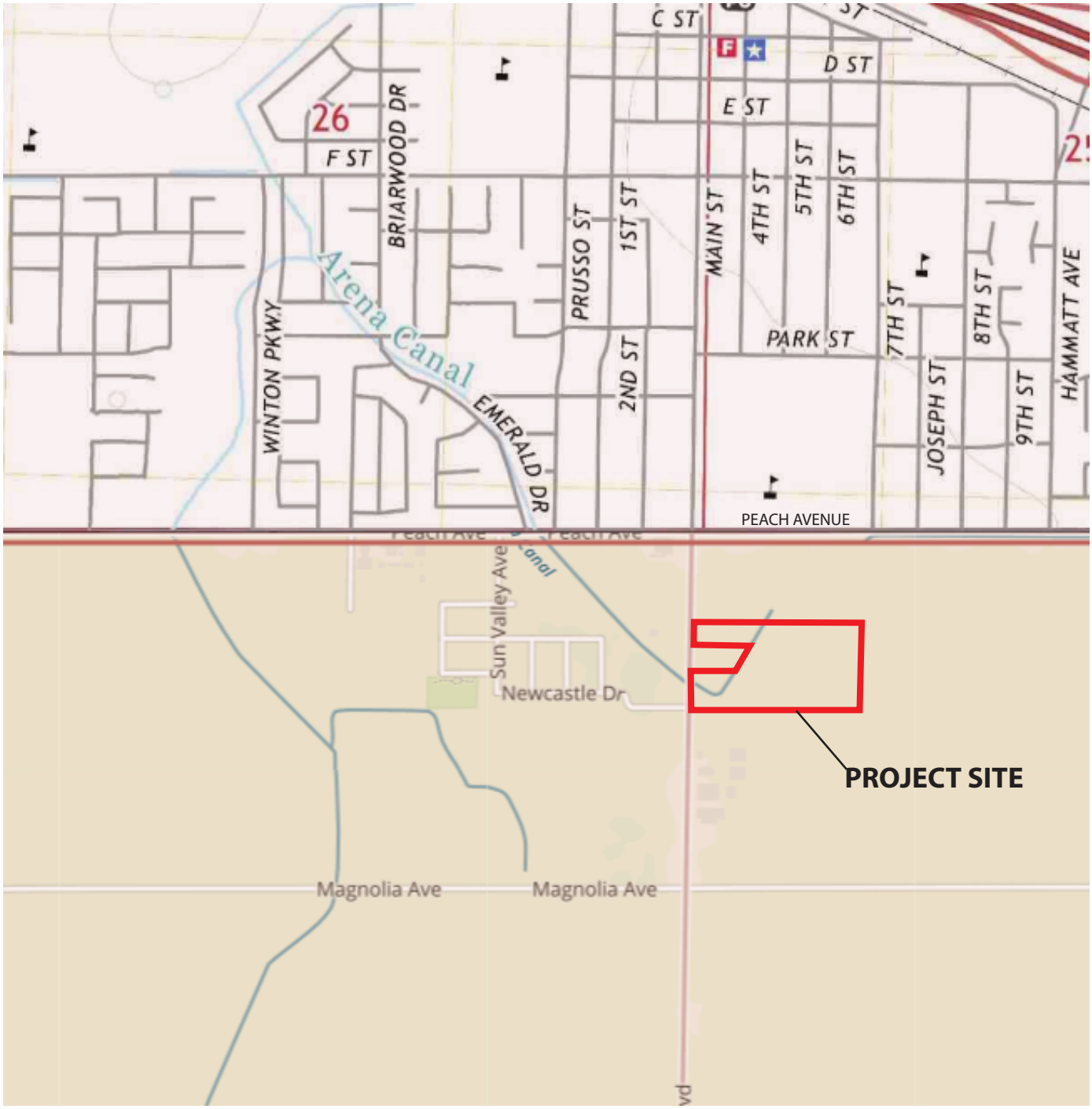
BaseCamp Environmental

Figure 1
PROJECT LOCATION MAP

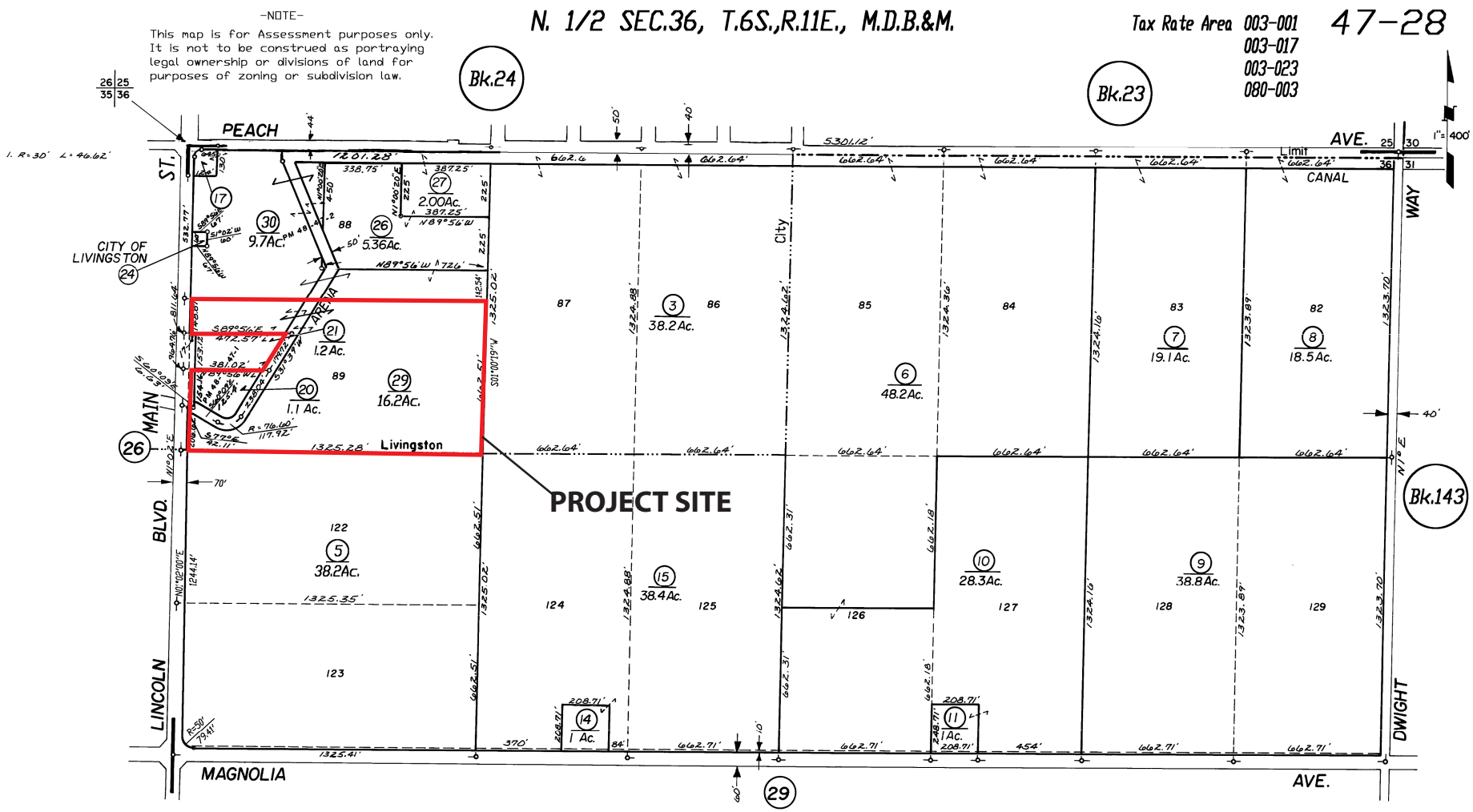


SOURCE: Google Maps

Figure 2
STREET MAP



SOURCE: Cressey CA USGS Quadrangle Map, T6S, R11S, S25 and Arena CA USGS Quadrangle Map, T6S, R11E, S36.



REDRAWN 11/83
REVISED 4-30-14

Livingston Land & Col. Co. Sub. No. 1, R.M. Vol. 3, Pg. 55

NOTE — Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

Assessor's Map Bk. 47 - Pg. 28
County of Merced, Calif.
1983

Figure 4
ASSESSOR PARCEL MAP



SOURCE: Google Maps



Large Spreading Palms at the Pool - 8'-12' BTH

Phoenix canariensis	Canary Island Palm
Phoenix dactylifera	Date Palm
Syagrus romanzoffiannum	Queen Palm
Washingtonia filifera	California Fan Palm

Small Palms - 6'-10' BTH

Washingtonia robusta	Mexican Fan Palm
Trachycarpus fortunei	Windmill Palm

Conifers - Screen Trees - 15 gallon. min.

Cedrus deodara	Deodar Cedar
Pinus eldarica	Mondell Pine
Pinus pinea	Italian Stone Pine
Sequoia sempervirens	Coast Redwood
Thuja plicata 'Spring Grove'	Western Red Cedar

Upright Accent Trees at Buildings - 15 gallon. min.

Brachychiton popuineus	Bottle Tree
Carpinus betulus 'Fastigiata'	Upright Hornbeam
Pyrus calleryana 'Chanticleer'	Chanticleer Pear
Rhus lancea	African Sumac

Perimeter Screen Trees - 15 gallon. min.

Eucalyptus sideroxylon	Red Ironbark
Eucalyptus leucoxylon	White Ironbark
Quercus wislizenii	Interior Live Oak
Quercus lobata	Valley Oak
Schinus molle	California Pepper

Small Accent Trees - 15 gal. min.

Albizia julibrissen	Silk Tree
Cornus florida	Flowering Dogwood
Lagerstroemia faurei	Crape Myrtle
Malus spp.	Crabapple
Prunus 'Krauter Visivius'	Flowering Plum

Formal Row of Trees - 15 gallon. min.

Acer Palmatum 'Sangu Kaku'	Coral Bark Maple
Carpinus betulus 'Fastigiata'	Upright Hornbeam
Populus nigra 'Italica'	Lombardy Poplar
Pyrus calleryana 'Chanticleer'	Chanticleer Pear
Tilia cordata	Little Leaf Linden

Deciduous Parking Lot Shade Trees - 15 gallon. min.

Pistacia chinensis 'Keith Davey'	Chinese Pistache
Platanus x acerifolia	London Plane Tree
Quercus coccinea	Scarlet Oak
Ulmus parvifolia	Chinese Elm

Large spreading Trees - 15 gallon and 24" box

Cinnimomum camphora	Camphor Tree
Olea europea	Olive
Quercus Agrifolia	Coast Live Oak
Schinus molle	California Pepper

This plan represents the design style and theme of the landscape design and planting. These plans are preliminary and may change through the design process. The final planting plan may not contain all of the above plants in the sizes as shown. Additionally some new plant species may be used in the final design. This plan does however indicate the quantity of trees and the overall level of landscape development that will be carried

Landscape Area Calculations

Lawn Area	57,749 sf	21.6%
Shrub Areas	209,463 sf	78.4%
Total Landscape	267,212 sf	100%
Size of Parcel	747,529 sf	(17.16 acres)
Percentage of Site in Landscape	35.75%	

BaseCamp Environmental

Figure 6
SITE PLAN

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 25, 2021

Randy Hatch
City of Livingston
1416 C St.
Livingston, CA 95334

Re: 2021010256, The Villages at Main Residential Apartment Community Project, Merced County

Dear Mr. Hatch:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined 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 Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources 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 Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

Department of Toxic Substances Control

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Jared Blumenfeld
Secretary for
Environmental Protection

Gavin Newsom
Governor

January 26, 2021

Mr. Randy Hatch
City of Livingston
1416 C St.
Livingston, CA 95334
RHatch@livingstoncity.com

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE VILLAGES AT MAIN RESIDENTIAL APARTMENT COMMUNITY – DATED JANUARY 20, 2021 (STATE CLEARINGHOUSE NUMBER: 2021010256)

Mr. Hatch:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for the Villages at Main Residential Apartment Community (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the EIR Hazards and Hazardous Materials section:

1. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.
2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline

contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

3. If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/11/aml_handbook.pdf).

4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers* (https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf).

5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf).

6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf).

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please submit a request for Lead

Agency Oversight Application, which can be found at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/VCP_App-1460.doc. Additional information regarding voluntary agreements with DTSC can be found at: https://dtsc.ca.gov/brownfields/.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,



Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

RECEIVED
FEB 23 2021
CITY OF LIVINGSTON

Tuesday, February 23, 2021

Comments for Notice of Preparation for an Environmental Impact Report for the Village at Main Apartment Project,

This project needs a full Environmental Impact Report.

The Notice of Preparation refers to the Livingston General Plan. It fails to state the year of the Livingston General Plan being used.

The current general plan for the City of Livingston is the 1999 General Plan. At the end of the 1999 Livingston General Plan and Environmental Impact Report is a list of documents consulted the dates on these documents go back farther than 1999. The data inside the documents go back farther than the date listed on the document. See C-2 & C-3 attached

The 1999 General Plan and Environmental Impact Report is outdated and old.

Yet this project "would require approval of a Conditional Use Permit…" This Conditional Use Permit is based off of the 1999 General Plan and EIR.

Many things have changed in the environment over the last twenty-plus years. My concern is, to do a project with the large scale of impacts by attaching it to an outdated 1999 General Plan and EIR with a Negative Impact Report or anything less than a full Environmental Impact Report seems counterintuitive to the purpose of the CEQA process.

See C-2 & C-3 attached

PERSONS PREPARING DEIR

Quad Knopf, Inc.

Stephen Peck, AICP, Project Manager.
David E. Fey, AICP, Senior Planner.
Lisa Dock, Graphics.
Patrick Keenan, Graphics.
Wes Rhodehammel, Biologist.
Waring Laurentine, Biologist.

Subconsultants

Applied Development Economics, Doug Svensson, Principal, Berkeley, California.
Brown-Buntin Inc., Bill Thiessen, Principal, Visalia, California.
Merced County Association of Governments, Robert Beckler, Rich Green, Matt Fell, Merced, California.

DOCUMENTS CONSULTED

1996 Regional Transportation Plan, Merced County Association of Governments, Merced, California, 1996.

1998 CEQA Guidelines Revisions: What Every CEQA Practitioner Needs to Know, prepared by Maureen F. Gorsen, General Counsel, California Resources Agency, October, 1998.

City/County Population Estimates, with Annual Percent Change, January 1, 1998 and 1999, State of California, Department of Finance. Sacramento, California, May 1999.

California Department of Fish and Game Natural Diversity Data Base, Cressey 7.5 minute USGS quadrangle summary, Merced County.

California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, Cressey 7.5 minute USGS quadrangle summary, Merced County.

City of Livingston Downtown Revitalization Plan, Valley Planning Consultants, June, 1993.

City of Livingston General Plan, Valley Planning Consultants, Merced, California, 1988, including revisions to the Circulation Element, 1990.

City of Livingston General Plan Update, Preliminary Development Forecasts/Community Concern Summary, Quad Knopf and Applied Development Economics, April, 1998.

City of Livingston General Plan Update, Draft Background Report, Quad Knopf. Visalia, California, October, 1998.

City of Livingston General Plan Update, Constraints and Opportunities Summary, Quad Knopf. Visalia, California, November, 1998.

City Of Livingston Parks And Recreation Master Plan 1994-2003, Floyd Davis P.E., August 1993.

City of Livingston Sewer Collection System Study and Master Plan, Storm Drain Collection System Study and Master Plan, and *Water Distribution System Study and Master Plan*, Lew-Garcia-Davis, Ceres, California, December 1992.

EIR for a Wastewater Treatment Facility, Winton Sanitary District, Jorgensen-Tolladay Engineers, Merced California, February 1976.

Facilities Master Plan/Development Fee Justification Study, Livingston Union School District, Michael Paoli and Associates, Fresno, California, January, 1996.

Five-Year Facility Plan, Merced Union High School District, March 1996.

Guide for Assessing and Mitigating Air Quality Impacts, San Joaquin Valley Unified Air Pollution Control District, August, 1998.

Memorandum to Tim Kerr, Livingston City Manager from Valley Planning Consultants regarding Forecast for Redevelopment Agency, February 1997.

Merced County Year 2000 General Plan, County of Merced, December, 1990.

State General General Plan Guidelines, Office of Planning and Research, 1998.

Soil Survey, Merced Area, California, United States Department of Agriculture, Soil Conservation Service, Series 1950, No. 7, issued July, 1962.

Soil Candidate Listing For Prime Farmland And Farmland Of Statewide Importance, Merced County, California Department Of Conservation, Farmland Mapping And Monitoring Program, U.S. Department Of Agriculture, Natural Resources Conservation Service, July, 1995.

Transportation and Land Development, Institute of Transportation Engineers, 1988.

Traffic Manual, California Department of Transportation, April, 1992.

Agricultural Impacts

The City of Livingston has the following statement: "*The EIR will analyze project consistency with the Livingston General Plan…*" "*…The EIR will consider these concerns in the context of the City's analysis of agriculture-related issues in the Livingston General Plan EIR, along with the potential for indirect conversion of agricultural land.*"

My concern is the 1999 Livingston General Plan does not have an agricultural land use designation.

The City of Livingston in its 1999 Livingston General Plan did away with the agriculture land use designation. In Table 2-1 Final Environmental Impact Report, (FEIR), November, 1999, 2-6, the previous general plan, listed under the title Existing General Plan, Open Agriculture is listed. But the 1999 General Plan listed under the title Proposed General Plan there is no Agriculture land use designation.

The City of Livingston in its 1999 FEIR deleted the term Agriculture from its previous General Plan Land Use. (see Table 2-1) attached

In the City of Livingston 1999 General Plan, December, 1999, 3-2, Under Table 3-1 Plan Consistency Table, there is no agriculture land use designation. The closest land use designation is Unclassified/Reserve. attached

The 1999 General Plan does not recognize in its Plan Consistency Table.

As stated above, The City of Livingston has the following statement: "*The EIR will analyze project consistency with the Livingston General Plan…*" "*…The EIR will consider these concerns in the context of the City's analysis of agriculture-related issues in the Livingston General Plan EIR, along with the potential for indirect conversion of agricultural land.*"

My concern is if the 1999 Livingston General Plan does not have an agricultural land use designation, how will the City of Livingston analyze the impacts to agriculture by using a plan that does not have agriculture as a Planned Land Use?

My concern is how will the EIR analyze the proposed project consistency with the Livingston General Plan when the 1999 Livingston General Plan does not recognize agriculture in its Plan Consistency Table?

Table 2-1
Comparison of Planned Land Uses

Existing General Plan	Acreage	Proposed General Plan	Acreage
Low Density	981	Low Density/Estate Res.	986
Low Density Reserve	39	Medium Density Res.	96
Medium Density	58	High Density Res.	86
High Density	48	Community Commercial	41
Commercial	61	Downtown Commercial	35
Commercial Reserve	74	Highway Commercial	101
Highway Commercial	63	Neighborhood Commercial	8
Neighborhood Commercial	1	Service Commercial	120
Industrial	347	Commercial Reserve	94
Open Agriculture	547	General Industrial	558
Open Recreation	40	Limited Industrial	114
Park	30	Industrial Reserve	158
Public Facility	53	Park / Open Space	32
School	71	Park Reserve	153
Urban Reserve	19	Public Facility	309
WWTP	126	Public Facility Reserve	36
		Urban Reserve	1929
Total	**2559**		**4855**

Table 3-1
Plan Consistency Table

Plan Designation	Consistent Zone District	Consistent Density (In dwelling units/ gross acre)	Maximum Intensity Of Persons Per Acre
Unclassified/Reserve	Within the city limits: no consistent zone districts. Between the city limits and the Sphere of Influence: zone districts are limited to exclusive agricultural districts of Merced County		
Residential			
Low/Estate Density	R-1-8, R-1-6, R-1-5.5 R-M, P-D	1.0 – 7.5	38
Medium Density	R-2, R-M, P-D	7.6 – 11.9	41.5
High Density	R-2, R-3, R-M, P-D	12 - 29	101.5
Downtown Commercial Professional Office	C-1, DTC, PO		
Community Commercial/ Neighborhood Commercial	C-2		
Service Commercial/Highway Commercial	C-3		
Limited Industrial	M-1		
General Industrial	M-2		
Open Space/Park	O		
Public	P-F		

5. The City will update the Zoning Ordinance as appropriate to implement the General Plan.

This proposed large project will affect agricultural land.

This proposed project of 480 apartments on agricultural land is a growth inducing project with direct and indirect impacts.

This proposed project of 84 one-bedroom, 300 two-bedroom, and 96 three-bedroom apartments adjacent to agricultural land will have direct and indirect impacts to the feasibility of agricultural in the vicinity and extending areas.

What will the impacts to the neighboring agricultural land, agriculture land in the vicinity, and agriculture land in the extending areas?

How will it impact the agricultural practices?

What is the impact to agricultural land in the Williamson Act?

How will the agricultural land in permanent agriculture easements, like Central Valley Farmland Trust be affected and how will the agriculture land be protected?

How does this proposed project pose a hazard to agriculture?

What needs to be done to protect agriculture?

To build a project this size, utilizing a Conditional Use Permit is inadequate. The impacts both direct and indirect to agriculture is huge. It is significant. I'm afraid, due to the size of this growth-inducing proposed project, it will be detrimental to many acres of agriculture not just the 17.3 acres of this proposed project.

This proposed project needs a full EIR to determine the feasibility of the project.

Permanent Agriculture Easement

Our farm is in a permanent agriculture easement.

What will the impacts direct and indirect be to our agriculture land?

The agriculture easement occurred after the 1999 General Plan.

How will the 1999 General Plan be able to "analyze project consistency" when it does not have the permanent agriculture easement in it?

This project needs an full environmental impact report.

This proposed project of 480 apartments, 84-one bedroom, 300 two-bedroom, and 96 three-bedroom units will have 587 parking stalls.

What will the impact of 587 vehicles adjacent to agriculture land have on agriculture?

This proposed project will widen the South of Main Street 55 feet to 110 feet. This widening south of town is the rural area/agriculture area.

South of Main Street is agriculture land.

Why does the road surrounded by agriculture land need to be widened to 110 feet?

What will be the direct and indirect impacts to agriculture be of widening the road to 110 feet South of Main Street?

Traffic Circulation

This proposed project of 480 apartments, 84-one bedroom, 300 two-bedroom, and 96 three-bedroom units will have 587 parking stalls.

This proposed project will widen the South of Main Street from 55 feet to 110 feet. This widening south of town is the rural area/agriculture area.

What happens when traffic goes from 110 feet to 55 feet. attached

According to the 1999 Livingston General Plan, December, 1999, 4-3, all new services is to operate at a Level of Service of C for a period of twenty years. See #9

How can adding potentially 587 cars down the current two lane roads, Main Street and other roads prevent congestion? What will happen during peak rush hours?

Livingston High School is nearby. What are the dangers/hazards to students walking to school?

What will the impact/future to the existing homes along Main Street and other roads?

Will this growth-inducing property impact the need to widen Main Street and other roads? Will people lose property in front of their homes?

Highway Congestion and Winton Parkway

This proposed project of 480 apartments, 84-one bedroom, 300 two-bedroom, and 96 three-bedroom units will have 587 parking stalls.

The Highway 99 Winton Parkway Exit is impacted. The Winton Parkway Exit backs up around 5 p.m. which backs up traffic on Highway 99. (This was common before co-vid. When the co-vid restrictions are lifted it is expected traffic on 99 to increase again.

How will 587 more vehicles impact Highway 99 and the Winton Parkway Exit?

This proposed project will have a regional and state impact. A full Environmental Impact Report needs to be done.

Winton Parkway and Robin Ave/B Street is congested at certain times of the day. It has taken me three stop light cycles before I could get through in the morning at peak times.

How will this growth inducing project impact the local roads?

According to the 1999 Livingston General Plan, December, 1999, 4-3, all new services is to operate at a Level of Service of C for a period of twenty years.

At peak traffic times Winton Parkway and Robin Ave/B Street/ Vinewood Ave operates at a level of service below C. The 1999 General Plan states all new service is to operate at a Level of Service of C for a period of twenty years.

My concern is this potential project which has 587 parking spaces will increase traffic and impact already over impacted road.

How will this proposed project of 587 vehicles allow traffic to flow at a Level of Service of C for twenty years?

Is this proposed project even feasible?

This proposed project needs a full environmental Impact Report.

b. Collector streets provide for traffic movement between arterial and local streets, traffic movement within and between neighborhoods and major activity centers, and limited direct access to abutting properties.

c. Local streets provide for direct access to abutting properties and for very localized traffic movements within residential, commercial and industrial areas.

d. Minor collectors are local streets designated to connect neighborhoods and designed to discourage through traffic.

4. Standards for new street development shall be consistent with the General Plan.

5. Arterial, collector and local street standards shall be developed which provide adequate capacity for their appropriate function, and these shall be incorporated into the Subdivision Standards for the City of Livingston.

6. Actual design and improvement to ultimate standards shall be achieved through inclusion of facilities as part of the City-wide Capital Improvements Program, or by new developers as areas adjoining the designated circulation system are developed, with allowance for bicycle lanes, where planned.

7. Standards for new street development can be altered or refined through the specific plan or planned unit development process when it can be demonstrated that projected traffic flows can be accommodated.

8. New street developments in areas of urban expansion should not be limited to a "grid system." More efficient and varied street layouts should be encouraged, wherever possible.

9. The City designates Service Level "C" as defined in the Highway Capacity Manual (published by the Transportation Research Board of the National Research Council) as the minimum desirable service level at which arterial streets and collector streets should operate. All new facilities in these categories shall be designed to operate at this level or better for a period of at least 20 years following their construction.

10. The right-of-way widths and construction widths of all classes of streets from local to arterial shall be updated as necessary to reflect the street classifications in the Circulation Element.

11. Right-of-way essential to the circulation system should be dedicated and/or developed to the appropriate extent and width when a zone change to a greater density, division of property or development occurs. The City shall have Merced County apply the same requirements within the Livingston Sphere of Influence.

12. City circulation system street alignments shall be coordinated with Merced County circulation system street alignments.

Student Safety and traffic

There are two schools in the vicinity of Winton Parkway and Robin and B Street.

How will the students walking to and from school be affected?

Will they be safe?

Safety Evacuation and Emergency Routes

Highway 99, Vinewood Ave., B Street, and Lincoln/Main Street are Evacuation (Figure 4-4) and Emergency Routes. attached

It is imperative we keep these routes and traffic flowing.

Adding 587 vehicles to a two lane road Lincoln/Main Street will impede the flow of traffic.

What will happen in the case of emergencies?

How will this proposed project effect traffic? What will traffic be like at peak times?

Emergencies occur at any time of the day.

What will the fire response time be?

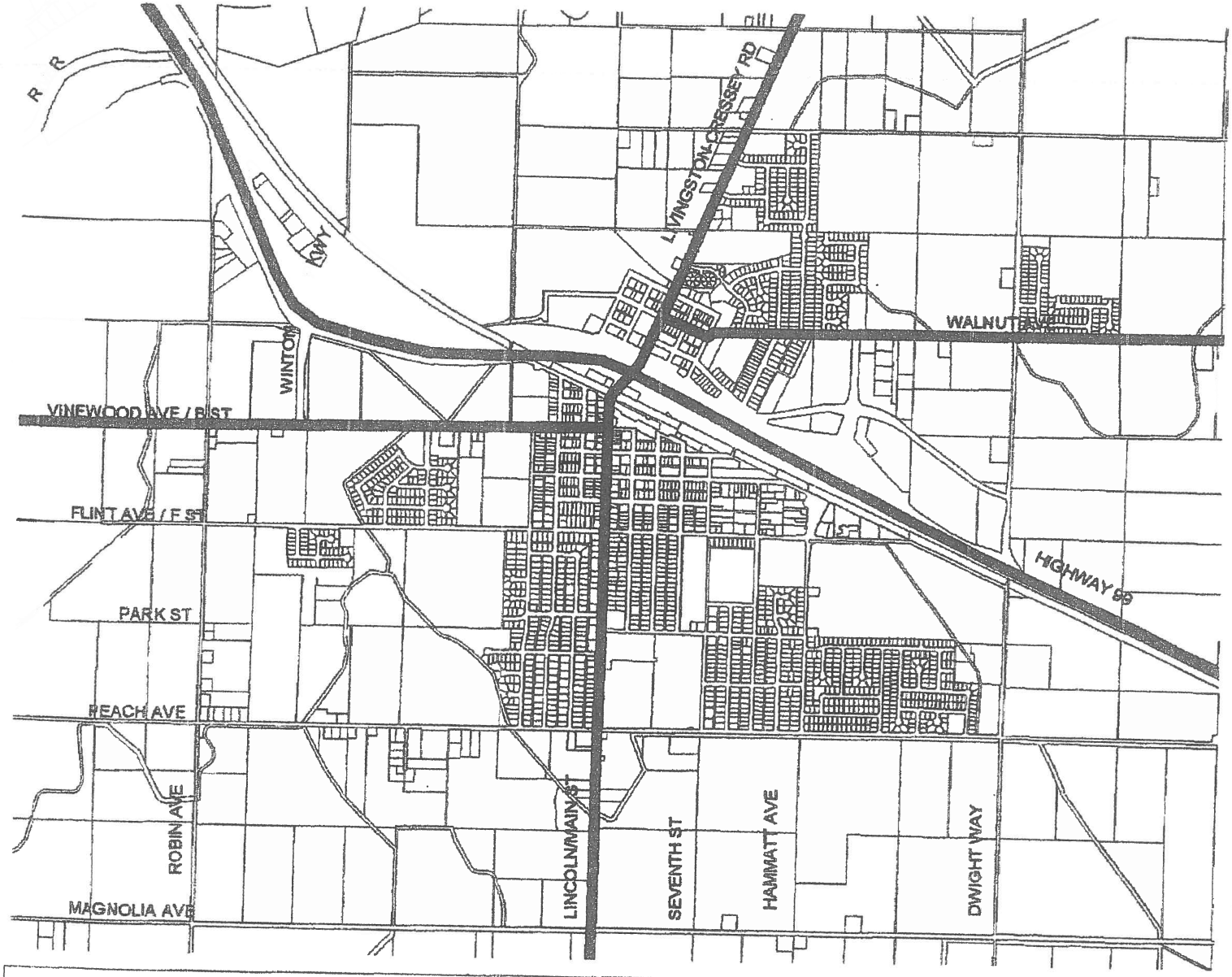
What will the ambulance response time be?

What will the police response time be?

These times need to be looked at during the most heavily congested period.

Is this proposed project feasible? A full Environmental Impact Report needs to be done.

Thank You,
Colette Alvernaz
Colette Alvernaz
PO Box 255
Livingston, CA
95334



LEGEND

Vehicular Evacuation Routes

N

1000 0 1000 Feet

Quad Knopf

Vehicular Evacuation Routes

Figure 4-4

Valley Land Alliance
PO Box 102
Cressey, Ca 95312
February 23, 2021

Re: Notice of Preparation of a Draft Environmental Impact Report for The Village at Main Apartment Project

Dear Livingston City Manager,

Valley Land Alliance would like to make comments on the proposed 17.3 acre development of 480 apartment units with associated facilities. We are not opposed to higher density housing, which this project appears to be; however, the most basic need for people is safe, affordable drinking water.

As stated in the notice, Hydrology and Water Quality will be addressed. We would like to be on record opposing development in a community which has contaminated ground water and limited surface water. More than one water study of Livingston City water has been done in recent years which addressed the concerns we have. Where is safe water? What are the limitations for developing which involves more water needs?

- We request the water studies done in Livingston City since 2000 be included in this study.
- We request this study include the costs for filtering the well water and effects of lowering the domestic wells in the vicinity.
- We request that the study provide costs for the present water management and future costs with expansion of development.

Please see the Project Prioritization Tool (PPT) prepared by San Joaquin Valley Conservation Collaborative American Farmland Trust (AFT) and the Conservation Biology Institute (CBI) to determine the assets/vulnerabilities of this particular land. https://www.youtube.com/watch?v=Ab2T-QBB8zk

We have more than one million people in Calfifornia who don't have safe drinking water. Many people in Livingston are told they can drink the water but they don't, because of the poor quality, color and taste.

Presently Merced County is rated high priority for addressing Sustainable Groundwater Management. Not only the quality, but the quantity of groundwater and surface water are being presently studied, required by the State. By 2040 groundwater must be sustainable.

With a drier climate, increased heat, and water diversions, the water and also the air quality will be further affected. This must be addressed.

Thank you for the opportunity to make comments. We request all information on this proposed development be sent to our address. Thank you.

Sincerely,

Jean Okuye, President of Valley Land Alliance

APPENDIX B
AIR QUALITY MODELING RESULTS

Sanghera Apartments

Merced County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	480.00	Dwelling Unit	12.63	480,000.00	1373

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	49
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Architectural Coating - Per SJVAPCD Rule 4601.

Woodstoves - No fireplaces or woodstoves.

Area Coating - Per SJVAPCD Rule 4601.

Mobile Land Use Mitigation -

Water Mitigation -

Waste Mitigation -

Sanghera Apartments - Merced County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberGas	264.00	0.00
tblFireplaces	NumberNoFireplace	216.00	480.00
tblGrading	AcresOfGrading	75.00	17.00
tblGrading	AcresOfGrading	0.00	17.00
tblWoodstoves	NumberCatalytic	12.63	0.00
tblWoodstoves	NumberNoncatalytic	12.63	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3580	2.8653	2.7369	6.2400e-003	0.4168	0.1239	0.5406	0.1596	0.1155	0.2751	0.0000	556.6269	556.6269	0.0941	0.0000	558.9782
2022	1.7796	1.9086	2.3870	5.8100e-003	0.2591	0.0754	0.3345	0.0695	0.0708	0.1403	0.0000	519.7136	519.7136	0.0680	0.0000	521.4139
Maximum	**1.7796**	**2.8653**	**2.7369**	**6.2400e-003**	**0.4168**	**0.1239**	**0.5406**	**0.1596**	**0.1155**	**0.2751**	**0.0000**	**556.6269**	**556.6269**	**0.0941**	**0.0000**	**558.9782**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3580	2.8653	2.7369	6.2400e-003	0.3067	0.1239	0.4305	0.1038	0.1155	0.2192	0.0000	556.6266	556.6266	0.0941	0.0000	558.9779
2022	1.7796	1.9086	2.3870	5.8100e-003	0.2591	0.0754	0.3345	0.0695	0.0708	0.1403	0.0000	519.7134	519.7134	0.0680	0.0000	521.4137
Maximum	**1.7796**	**2.8653**	**2.7369**	**6.2400e-003**	**0.3067**	**0.1239**	**0.4305**	**0.1038**	**0.1155**	**0.2192**	**0.0000**	**556.6266**	**556.6266**	**0.0941**	**0.0000**	**558.9779**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**16.29**	**0.00**	**12.58**	**24.36**	**0.00**	**13.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2021	6-30-2021	1.4019	1.4019
2	7-1-2021	9-30-2021	0.9092	0.9092
3	10-1-2021	12-31-2021	0.9127	0.9127
4	1-1-2022	3-31-2022	0.8106	0.8106
5	4-1-2022	6-30-2022	0.8167	0.8167
6	7-1-2022	9-30-2022	1.4241	1.4241
		Highest	1.4241	1.4241

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1322	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618
Energy	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	939.7765	939.7765	0.0344	0.0116	944.0902
Mobile	1.0808	12.0741	11.2962	0.0627	3.4796	0.0362	3.5158	0.9374	0.0340	0.9714	0.0000	5,847.5480	5,847.5480	0.3926	0.0000	5,857.3639
Waste						0.0000	0.0000		0.0000	0.0000	44.8204	0.0000	44.8204	2.6488	0.0000	111.0407
Water						0.0000	0.0000		0.0000	0.0000	9.9218	69.3038	79.2256	1.0222	0.0247	112.1442
Total	**3.2445**	**12.3846**	**14.9757**	**0.0646**	**3.4796**	**0.0777**	**3.5573**	**0.9374**	**0.0755**	**1.0129**	**54.7422**	**6,862.4501**	**6,917.1923**	**4.1036**	**0.0363**	**7,030.6008**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1322	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618
Energy	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	939.7765	939.7765	0.0344	0.0116	944.0902
Mobile	1.0492	11.7742	10.6932	0.0592	3.2395	0.0340	3.2735	0.8727	0.0319	0.9046	0.0000	5,520.9101	5,520.9101	0.3856	0.0000	5,530.5496
Waste						0.0000	0.0000		0.0000	0.0000	11.2051	0.0000	11.2051	0.6622	0.0000	27.7602
Water						0.0000	0.0000		0.0000	0.0000	7.9374	55.4430	63.3805	0.8178	0.0198	89.7154
Total	**3.2130**	**12.0847**	**14.3727**	**0.0611**	**3.2395**	**0.0755**	**3.3150**	**0.8727**	**0.0734**	**0.9461**	**19.1425**	**6,521.9514**	**6,541.0939**	**1.9055**	**0.0314**	**6,598.0771**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.97**	**2.42**	**4.03**	**5.43**	**6.90**	**2.92**	**6.81**	**6.90**	**2.83**	**6.60**	**65.03**	**4.96**	**5.44**	**53.57**	**13.61**	**6.15**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-105.4000
Total	**-105.4000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2021	4/28/2021	5	20	
2	Site Preparation	Site Preparation	4/29/2021	5/12/2021	5	10	
3	Grading	Grading	5/13/2021	6/23/2021	5	30	
4	Building Construction	Building Construction	6/24/2021	8/17/2022	5	300	
5	Paving	Paving	8/18/2022	9/14/2022	5	20	
6	Architectural Coating	Architectural Coating	9/15/2022	10/12/2022	5	20	

Acres of Grading (Site Preparation Phase): 17

Acres of Grading (Grading Phase): 17

Acres of Paving: 0

Residential Indoor: 972,000; Residential Outdoor: 324,000; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	346.00	51.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	69.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5300e-003	0.0000	1.5300e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**1.5300e-003**	**0.0155**	**0.0170**	**2.3000e-004**	**0.0144**	**0.0146**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8000e-003	2.8000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5269	0.5269	4.0000e-005	0.0000	0.5278
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.3000e-004	4.5500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0567	1.0567	3.0000e-005	0.0000	1.0576
Total	**6.8000e-004**	**2.2300e-003**	**4.8300e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3400e-003**	**3.5000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5837**	**1.5837**	**7.0000e-005**	**0.0000**	**1.5854**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9000e-004	0.0000	6.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.9000e-004**	**0.0155**	**0.0162**	**1.0000e-004**	**0.0144**	**0.0145**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8000e-003	2.8000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5269	0.5269	4.0000e-005	0.0000	0.5278
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.3000e-004	4.5500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0567	1.0567	3.0000e-005	0.0000	1.0576
Total	**6.8000e-004**	**2.2300e-003**	**4.8300e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3400e-003**	**3.5000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5837**	**1.5837**	**7.0000e-005**	**0.0000**	**1.5854**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0994	0.0000	0.0994	0.0506	0.0000	0.0506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0994**	**0.0102**	**0.1096**	**0.0506**	**9.4000e-003**	**0.0600**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	2.7300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6340	0.6340	2.0000e-005	0.0000	0.6345
Total	**3.8000e-004**	**2.6000e-004**	**2.7300e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6340**	**0.6340**	**2.0000e-005**	**0.0000**	**0.6345**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0447	0.0000	0.0447	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0447**	**0.0102**	**0.0549**	**0.0228**	**9.4000e-003**	**0.0322**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	2.7300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6340	0.6340	2.0000e-005	0.0000	0.6345
Total	**3.8000e-004**	**2.6000e-004**	**2.7300e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6340**	**0.6340**	**2.0000e-005**	**0.0000**	**0.6345**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0994	0.0000	0.0994	0.0506	0.0000	0.0506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.0994**	**0.0298**	**0.1291**	**0.0506**	**0.0274**	**0.0780**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	8.6000e-004	9.1100e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1135	2.1135	6.0000e-005	0.0000	2.1151
Total	**1.2600e-003**	**8.6000e-004**	**9.1100e-003**	**2.0000e-005**	**2.3900e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1135**	**2.1135**	**6.0000e-005**	**0.0000**	**2.1151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0447	0.0000	0.0447	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.0447**	**0.0298**	**0.0745**	**0.0228**	**0.0274**	**0.0502**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	8.6000e-004	9.1100e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1135	2.1135	6.0000e-005	0.0000	2.1151
Total	**1.2600e-003**	**8.6000e-004**	**9.1100e-003**	**2.0000e-005**	**2.3900e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.1135**	**2.1135**	**6.0000e-005**	**0.0000**	**2.1151**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1302	1.1941	1.1354	1.8400e-003		0.0657	0.0657		0.0617	0.0617	0.0000	158.6715	158.6715	0.0383	0.0000	159.6286
Total	**0.1302**	**1.1941**	**1.1354**	**1.8400e-003**		**0.0657**	**0.0657**		**0.0617**	**0.0617**	**0.0000**	**158.6715**	**158.6715**	**0.0383**	**0.0000**	**159.6286**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0123	0.3870	0.0808	9.9000e-004	0.0231	1.1900e-003	0.0243	6.6800e-003	1.1400e-003	7.8200e-003	0.0000	94.1913	94.1913	9.1000e-003	0.0000	94.4188
Worker	0.0993	0.0680	0.7194	1.8500e-003	0.1890	1.4400e-003	0.1905	0.0503	1.3200e-003	0.0516	0.0000	166.9718	166.9718	5.1100e-003	0.0000	167.0995
Total	**0.1115**	**0.4550**	**0.8002**	**2.8400e-003**	**0.2121**	**2.6300e-003**	**0.2148**	**0.0569**	**2.4600e-003**	**0.0594**	**0.0000**	**261.1631**	**261.1631**	**0.0142**	**0.0000**	**261.5182**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1302	1.1941	1.1354	1.8400e-003		0.0657	0.0657		0.0617	0.0617	0.0000	158.6714	158.6714	0.0383	0.0000	159.6284
Total	**0.1302**	**1.1941**	**1.1354**	**1.8400e-003**		**0.0657**	**0.0657**		**0.0617**	**0.0617**	**0.0000**	**158.6714**	**158.6714**	**0.0383**	**0.0000**	**159.6284**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0123	0.3870	0.0808	9.9000e-004	0.0231	1.1900e-003	0.0243	6.6800e-003	1.1400e-003	7.8200e-003	0.0000	94.1913	94.1913	9.1000e-003	0.0000	94.4188
Worker	0.0993	0.0680	0.7194	1.8500e-003	0.1890	1.4400e-003	0.1905	0.0503	1.3200e-003	0.0516	0.0000	166.9718	166.9718	5.1100e-003	0.0000	167.0995
Total	**0.1115**	**0.4550**	**0.8002**	**2.8400e-003**	**0.2121**	**2.6300e-003**	**0.2148**	**0.0569**	**2.4600e-003**	**0.0594**	**0.0000**	**261.1631**	**261.1631**	**0.0142**	**0.0000**	**261.5182**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.2727	1.3336	2.2000e-003		0.0659	0.0659		0.0620	0.0620	0.0000	188.8561	188.8561	0.0452	0.0000	189.9872
Total	**0.1391**	**1.2727**	**1.3336**	**2.2000e-003**		**0.0659**	**0.0659**		**0.0620**	**0.0620**	**0.0000**	**188.8561**	**188.8561**	**0.0452**	**0.0000**	**189.9872**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0135	0.4362	0.0869	1.1700e-003	0.0275	1.2300e-003	0.0287	7.9500e-003	1.1800e-003	9.1300e-003	0.0000	111.0255	111.0255	0.0105	0.0000	111.2888
Worker	0.1090	0.0722	0.7793	2.1200e-003	0.2249	1.6500e-003	0.2265	0.0598	1.5200e-003	0.0613	0.0000	191.5455	191.5455	5.4300e-003	0.0000	191.6812
Total	**0.1225**	**0.5084**	**0.8662**	**3.2900e-003**	**0.2524**	**2.8800e-003**	**0.2553**	**0.0677**	**2.7000e-003**	**0.0704**	**0.0000**	**302.5709**	**302.5709**	**0.0160**	**0.0000**	**302.9700**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.2727	1.3336	2.2000e-003		0.0659	0.0659		0.0620	0.0620	0.0000	188.8559	188.8559	0.0452	0.0000	189.9870
Total	**0.1391**	**1.2727**	**1.3336**	**2.2000e-003**		**0.0659**	**0.0659**		**0.0620**	**0.0620**	**0.0000**	**188.8559**	**188.8559**	**0.0452**	**0.0000**	**189.9870**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0135	0.4362	0.0869	1.1700e-003	0.0275	1.2300e-003	0.0287	7.9500e-003	1.1800e-003	9.1300e-003	0.0000	111.0255	111.0255	0.0105	0.0000	111.2888
Worker	0.1090	0.0722	0.7793	2.1200e-003	0.2249	1.6500e-003	0.2265	0.0598	1.5200e-003	0.0613	0.0000	191.5455	191.5455	5.4300e-003	0.0000	191.6812
Total	**0.1225**	**0.5084**	**0.8662**	**3.2900e-003**	**0.2524**	**2.8800e-003**	**0.2553**	**0.0677**	**2.7000e-003**	**0.0704**	**0.0000**	**302.5709**	**302.5709**	**0.0160**	**0.0000**	**302.9700**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0189	1.0189	3.0000e-005	0.0000	1.0196
Total	**5.8000e-004**	**3.8000e-004**	**4.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0189**	**1.0189**	**3.0000e-005**	**0.0000**	**1.0196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0189	1.0189	3.0000e-005	0.0000	1.0196
Total	**5.8000e-004**	**3.8000e-004**	**4.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0189**	**1.0189**	**3.0000e-005**	**0.0000**	**1.0196**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.5038**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	1.7700e-003	0.0191	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.6869	4.6869	1.3000e-004	0.0000	4.6902
Total	**2.6700e-003**	**1.7700e-003**	**0.0191**	**5.0000e-005**	**5.5000e-003**	**4.0000e-005**	**5.5400e-003**	**1.4600e-003**	**4.0000e-005**	**1.5000e-003**	**0.0000**	**4.6869**	**4.6869**	**1.3000e-004**	**0.0000**	**4.6902**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.5038**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	1.7700e-003	0.0191	5.0000e-005	5.5000e-003	4.0000e-005	5.5400e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	4.6869	4.6869	1.3000e-004	0.0000	4.6902
Total	**2.6700e-003**	**1.7700e-003**	**0.0191**	**5.0000e-005**	**5.5000e-003**	**4.0000e-005**	**5.5400e-003**	**1.4600e-003**	**4.0000e-005**	**1.5000e-003**	**0.0000**	**4.6869**	**4.6869**	**1.3000e-004**	**0.0000**	**4.6902**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0492	11.7742	10.6932	0.0592	3.2395	0.0340	3.2735	0.8727	0.0319	0.9046	0.0000	5,520.9101	5,520.9101	0.3856	0.0000	5,530.5496
Unmitigated	1.0808	12.0741	11.2962	0.0627	3.4796	0.0362	3.5158	0.9374	0.0340	0.9714	0.0000	5,847.5480	5,847.5480	0.3926	0.0000	5,857.3639

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,192.00	3,067.20	2812.80	9,087,653	8,460,605
Total	3,192.00	3,067.20	2,812.80	9,087,653	8,460,605

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	46.90	17.40	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.504505	0.029429	0.155974	0.104791	0.016717	0.004370	0.015463	0.156066	0.002403	0.002061	0.006105	0.001524	0.000591

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	627.8451	627.8451	0.0284	5.8700e-003	630.3052
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	627.8451	627.8451	0.0284	5.8700e-003	630.3052
NaturalGas Mitigated	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	311.9314	311.9314	5.9800e-003	5.7200e-003	313.7850
NaturalGas Unmitigated	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	311.9314	311.9314	5.9800e-003	5.7200e-003	313.7850

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.84537e+006	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	311.9314	311.9314	5.9800e-003	5.7200e-003	313.7850
Total		**0.0315**	**0.2694**	**0.1146**	**1.7200e-003**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**311.9314**	**311.9314**	**5.9800e-003**	**5.7200e-003**	**313.7850**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.84537e+006	0.0315	0.2694	0.1146	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	311.9314	311.9314	5.9800e-003	5.7200e-003	313.7850
Total		**0.0315**	**0.2694**	**0.1146**	**1.7200e-003**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**311.9314**	**311.9314**	**5.9800e-003**	**5.7200e-003**	**313.7850**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.1582e+006	627.8451	0.0284	5.8700e-003	630.3052
Total		**627.8451**	**0.0284**	**5.8700e-003**	**630.3052**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.1582e+006	627.8451	0.0284	5.8700e-003	630.3052
Total		**627.8451**	**0.0284**	**5.8700e-003**	**630.3052**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1322	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618
Unmitigated	2.1322	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1502					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8746					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1074	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618
Total	**2.1322**	**0.0411**	**3.5649**	**1.9000e-004**		**0.0197**	**0.0197**		**0.0197**	**0.0197**	**0.0000**	**5.8218**	**5.8218**	**5.6000e-003**	**0.0000**	**5.9618**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1502					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8746					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1074	0.0411	3.5649	1.9000e-004		0.0197	0.0197		0.0197	0.0197	0.0000	5.8218	5.8218	5.6000e-003	0.0000	5.9618
Total	**2.1322**	**0.0411**	**3.5649**	**1.9000e-004**		**0.0197**	**0.0197**		**0.0197**	**0.0197**	**0.0000**	**5.8218**	**5.8218**	**5.6000e-003**	**0.0000**	**5.9618**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	63.3805	0.8178	0.0198	89.7154
Unmitigated	79.2256	1.0222	0.0247	112.1442

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.2739 / 19.7162	79.2256	1.0222	0.0247	112.1442
Total		**79.2256**	**1.0222**	**0.0247**	**112.1442**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	25.0191 / 15.7729	63.3805	0.8178	0.0198	89.7154
Total		**63.3805**	**0.8178**	**0.0198**	**89.7154**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.2051	0.6622	0.0000	27.7602
Unmitigated	44.8204	2.6488	0.0000	111.0407

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	220.8	44.8204	2.6488	0.0000	111.0407
Total		**44.8204**	**2.6488**	**0.0000**	**111.0407**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	55.2	11.2051	0.6622	0.0000	27.7602
Total		**11.2051**	**0.6622**	**0.0000**	**27.7602**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-105.4000	0.0000	0.0000	-105.4000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	17 / 0	-105.4000	0.0000	0.0000	-105.4000
Total		**-105.4000**	**0.0000**	**0.0000**	**-105.4000**

APPENDIX C
BIOLOGICAL RESOURCE ASSESSMENT

MOORE BIOLOGICAL CONSULTANTS

May 12, 2020

Mr. Charlie Simpson
BaseCamp Environmental
115 South School Street, Ste.14
Lodi, CA 95240

Subject: "THE VILLAGE AT MAIN", LIVINGSTON, CALIFORNIA: BIOLOGICAL ASSESSMENT

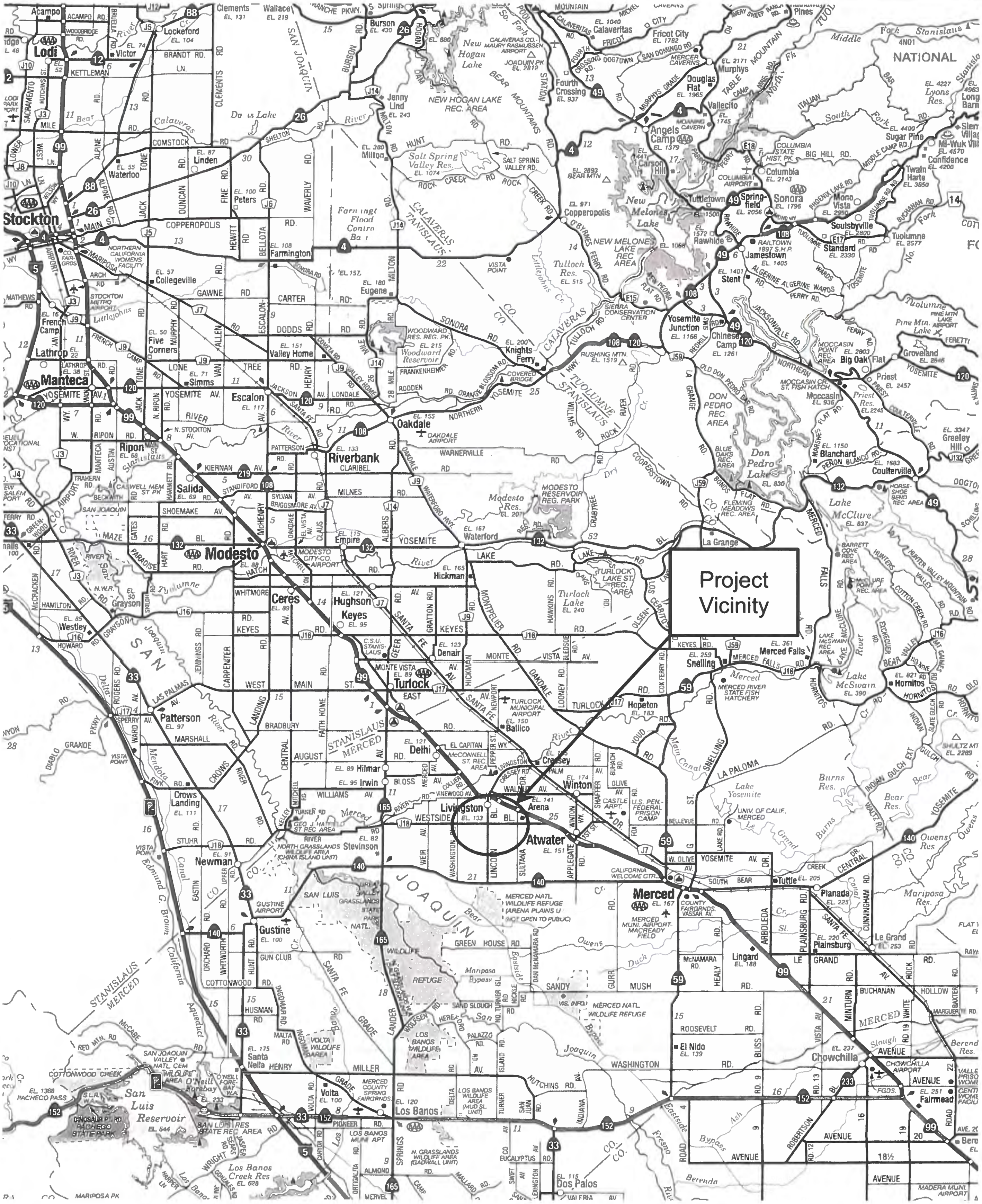
Dear Charlie:

Thank you for asking Moore Biological Consultants to prepare this biological assessment for this 17.2+/- acre site in Livingston, Merced County, California (Figures 1 and 2). The purpose of this assessment is to describe existing biological resources in the site, identify potentially significant impacts to biological resources from residential development, and provide recommendations for how to reduce those impacts to a less-than-significant level. The work involved reviewing databases, aerial photographs, and documents, and conducting a field survey to document vegetation communities, potentially jurisdictional Waters of the U.S. and/or wetlands, and potentially suitable habitat for or presence of special-status species. This report details the methodology and results of our investigation.

Project Overview

The 17.2+/- acre parcel (i.e., the "project site") proposed project is an apartment complex with associated parking stalls (see Site Plan in Attachment A). Access to the complex will be provided by a new road extending east in to the site from Main Street ("Lincoln Boulevard"). The site will have a network of internal roads. Storm water will be treated on-site in two water quality basins and then released

10330 Twin Cities Rd., Ste. 30 • Galt, CA 95632
(209) 745-1159 • Fax (209) 745-7513
e-mail: moorebio@softcom.net



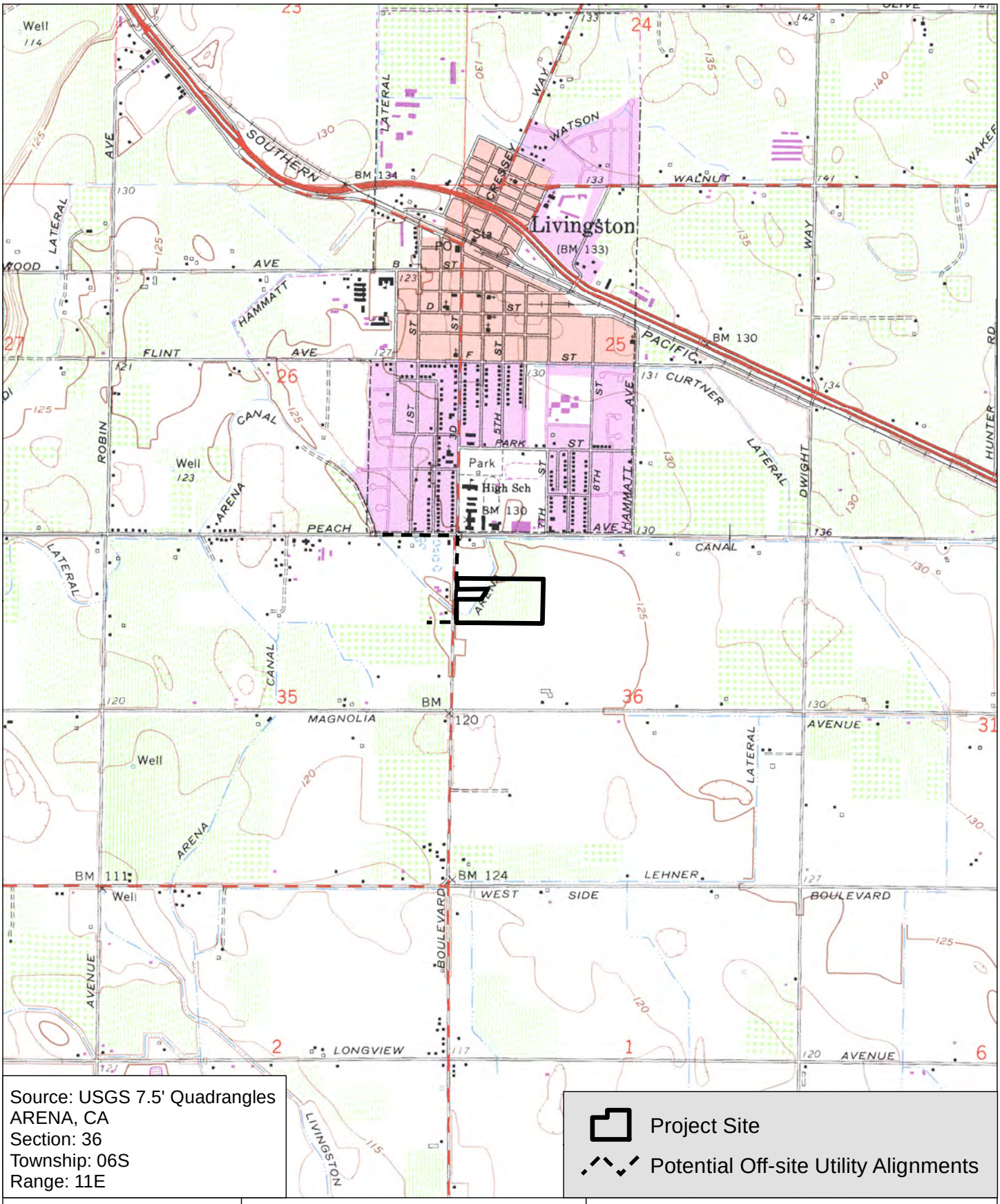
Source: Calif. State Automobile Association

Moore Biological Consultants

0 18 Miles

N W E S

FIGURE 1
PROJECT VICINITY



Source: USGS 7.5' Quadrangles
ARENA, CA
Section: 36
Township: 06S
Range: 11E

Project Site

Potential Off-site Utility Alignments

Figure 2

Moore Biological Consultants

0 1,000 2,000
Feet

N
W E
S

Map Date: 04/28/20

USGS

The Village at Main

City of Livingston, Merced County, CA

C:\Users\owner\Documents\EFC_INC\Projects\Moore Biological\The Village at Main\MXD\village at main_usgs_figure 2.mxd

into the City's existing storm drain system. Sewer and water service will also be provided by the City.

Minor road widening and shoulder improvements are also expected along the east side of Main Street, along the site' frontage. The project will also involve construction of off-site sewer and/or water lines along Main Street, Newcastle Drive, and/or Peach Avenue. These new utility line segments will connect the site to existing lines to the west and northwest.

Methods

Prior to the initial field survey, we conducted a search of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, 2019); an updated search was conducted in April of 2020 (CNDDB, 2020). The CNDDB searches were conducted on the USGS 7.5-minute Turlock, Cressey, Arena and Stevinson topographic quadrangles, encompassing approximately 240+/- square miles surrounding the site (Attachment B). The United States Fish and Wildlife Service (USFWS*)* IPaC Trust Resource Report of Federally Threatened and Endangered species that may occur in or be affected by projects in the project vicinity was also reviewed (Attachment B). This information was used to identify special-status wildlife and plant species that have been previously documented in the vicinity or have the potential to occur based on suitable habitat and geographical distribution. Additionally, the CNDDB depicts the locations of sensitive habitats. The USFWS on-line-maps of designated critical habitat in the area were also downloaded.

An initial field survey of the site was conducted on January 3, 2019 and an additional survey was conducted on April 28, 2020. The surveys consisted of walking throughout the site making observations of habitat conditions and noting surrounding land uses, habitat types, and plant and wildlife species. The fieldwork included an assessment of potentially jurisdictional Waters of the U.S.

and wetlands as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008) and a search for special-status species and suitable habitat for special-status species (e.g., blue elderberry shrubs, vernal pools). Trees in and near the site were assessed for the potential use by nesting raptors, especially Swainson's hawk (*Buteo swainsoni*). The pastures and grassland areas in the site were searched for burrowing owls (*Athene cunicularia*) or ground squirrel burrows with evidence of past occupancy.

Results

GENERAL SETTING: The project site is in the unincorporated community of Livingston, in Merced County, California (Figure 1). The site is in Section 36, Township 6 South, Range 11 East of the USGS 7.5-minute Arena topographic quadrangle (Figure 2). The site is nearly level and is at an elevation of approximately 125 feet above mean sea level.

Surrounding land uses in this portion of Merced County are primarily residential and agricultural (Figure 3). Main Street bounds the west edge of the site and a community sports complex bounds the north edge of the site. The east edge of the site is bounded by a disked, open field. The south edge of the site is bounded by cropland and an agricultural-related facility. In general, there are residential parcels further north and west of the site and agricultural fields and croplands further east, and south of the site.

The east and central part of the site, or "body" of the site, is a field that has been farmed in hay crops in recent years, but was fallow during the April 28, 2020 survey and contained ruderal grasses and weeds (Figure 3 and photographs in Attachment C). There are smaller fields of upland ruderal grassland in the west part of the site, adjacent to Main Street. The west part of the site surrounds an off-site parcel on three sides, which is separated from the body of the site by a concrete-lined irrigation lateral and a fence. This irrigation lateral flows through



Figure 3

Moore Biological Consultants

0 300 600
Feet

N
W E
S

Map Date: 04/29/20 Aerial
Source: NAIP (2018)

AERIAL

The Village at Main

City of Livingston, Merced County, CA

C:\Users\owner\Documents\EFC_INC\Projects\Moore Biological\The_Village_at_Main\MXD\village_at_main_aerial_figure_3.mxd

the north part of the site, continues around the off-site parcel, flows west under Main Street, and has been piped underground on lands to the west of Main Street.

VEGETATION: Due to the amount of disturbance from agriculture, development, and periodic mowing, spraying and/or disking for weed abatement, vegetation in the project site is primarily annual grasses and weed species. California annual grassland series (Sawyer and Keeler-Wolf, 1995) best describes the disturbed grassland vegetation. Grasses including oats (*Avena* sp.), Bermuda grass (*Cynodon dactylon*), ripgut brome (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*), are dominant grass species. Other grassland species such as black mustard (*Brassica nigra*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), horseweed (*Conyza canadensis*), filaree (*Erodium botrys*), and common mallow (*Malva neglecta*) are intermixed with the grasses. Table 1 is a list of plant species observed in the site during the field surveys.

The only trees in the site are a few trees along the irrigation lateral in the west part of the site, most of which are relatively small (Figure 3 and photographs in Attachment C). Although not within the project site, there are a few large trees associated with the house on Main Street that is surrounded by the site on three sides. Additionally, there are some large trees in residential areas adjacent to and surrounding the site. There are also some relatively large trees along the roads that will be subject to construction of off-site utilities related to the project.

No blue elderberry (*Sambucus mexicana*) shrubs were observed in or adjacent to the site.

WILDLIFE: A limited variety of bird species were observed during the field surveys; all of which are common species found in agricultural areas of Merced County (Table 2). Turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), American crow (*Corvus brachyrhynchos*), northern mockingbird

TABLE 1

PLANT SPECIES OBSERVED IN THE PROJECT SITE

Amsinckia menziesii	small-flowered fiddleneck
Arundo donax	giant reed
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft brome
Bromus madritensis	foxtail brome
Capsella bursa-pastoris	shepherd's purse
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	tall flat sedge
Datura innoxia	datura
Epilobium brachycarpum	fireweed
Erigeron canadensis	Canadian horseweed
Erodium botrys	filaree
Erodium circutarium	red-stem filaree
Helianthus annuus	common sunflower
Heterotheca grandiflora	telegraphweed
Hordeum murinum	foxtail barley
Juncus balticus	Baltic rush
Lactuca serriola	prickly lettuce
Malva neglecta	common mallow
Medicago sativa	alfalfa
Phalaris aquatica	harding grass
Plantago lanceolata	plantain
Raphanus sativa	radish
Salsola iberica	Russian thistle
Senecio vulgaris	old-man-in-the-spring
Sonchus oleraceus	common sow thistle
Vitis californica	California grape

TABLE 2

WILDLIFE SPECIES DOCUMENTED IN THE PROJECT SITE

Great egret	*Casmerodius albus*
Mallard	*Anas platyrhynchos*
Turkey vulture	*Cathartes aura*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
American kestrel	*Falco sparverius*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Rock dove	*Columba livia*
Black phoebe	*Sayornis nigricans*
Western scrub jay	*Aphelocoma coerulescens*
American crow	*Corvus brachyrhynchos*
Northern mockingbird	*Mimus polyglottos*
White-crowned sparrow	*Zonotrichia leucophrys*
Cliff swallow	*Petrochelidon pyrrhonota*

(*Mimus polyglottos*), western kingbird (*Tyrannus verticalis*), and white-crowned sparrow (*Zonotrichia leucophrys*) are representative of the avian species observed in the site.

Only one of these trees along the irrigation lateral in the site is large enough for relatively large raptors, including Swainson's hawk. There are a few large trees in close proximity to site as well as along the roads where the utility alignments will be placed that are suitable for nesting by songbirds and raptors. A pair of Swainson's hawks was observed nesting in a large tree along Main Street, located approximately 80 feet west of the west edge of the project site during the April 2020 survey. Due to the presence of trees in and near the site and suitable raptor foraging habitat (i.e., open fields) in and near the site, it is possible that

raptors nest in trees in or near the site during most years. Smaller birds, such as songbirds, could potentially nest within the small trees and grasslands in the site in some years. A few cliff swallows were observed nesting under a small foot bridge that spans over the irrigation lateral in the north part of the site (see photographs in Attachment C).

A limited variety of mammals common to agricultural areas likely occur in the project site. However, no mammals were observed during the two field surveys. The only sign of mammal activity observed in the site was Botta's pocket gopher (*Thomomys bottae*) activity. Black-tailed hare (*Lepus californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), desert cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*) are expected to occur in the project site on occasion. California ground squirrels (*Spermophilus beecheyi*) are widespread in agricultural areas and may occur on-site. However, no California ground squirrels or their burrows were observed during the surveys.

Due to lack of suitable habitat, few amphibians and reptiles are expected to use habitats in the site and none were observed. Common species such as western fence lizard (*Sceloporus occidentalis*), Pacific chorus frog (*Pseudacris regilla*) and western terrestrial garter snake (*Thamnophis elegans*) may occur in the site on occasion.

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. ACOE, CDFW, and the California Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

“Waters of the U.S.”, as defined in 33 CFR 328.4, encompasses Territorial Seas, Tidal Waters, and Non-Tidal Waters; Non-Tidal Waters includes interstate and intrastate rivers and streams, as well as their tributaries. The limit of federal jurisdiction of Non-Tidal Waters of the U.S. extends to the “ordinary high water mark”. The ordinary high water mark is established by physical characteristics such as a natural water line impressed on the bank, presence of shelves, destruction of terrestrial vegetation, or the presence of litter and debris.

Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Jurisdictional wetlands are usually adjacent to or hydrologically associated with Waters of the U.S; isolated wetlands are outside federal jurisdiction.

Jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages, lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Wetlands and Waters of the U.S. provide critical habitat components, such as nest sites and a reliable source of water, for a wide variety of wildlife species.

On April 21, 2020 the Environmental Protection Agency (EPA) and ACOE published the Navigable Waters Protection Rule to define “waters of the United States” (WOTUS) in the *Federal Register. The n*ew definition of “Waters of the United States" includes traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them. The rule is intended to clarify the limits of jurisdiction under the Clean Water Act and the foundational concept behind the rule is that “Waters of the United States" are waters within the ordinary meaning of the term, such as oceans, rivers, streams, lakes, ponds, and wetlands. The rule clarifies that not all waters are “Waters of the United States”. For example, many ditches, constructed features (excavated basins), isolated waters and wetlands, and ephemeral tributaries would no longer meet the definition of “Waters of the United States" under the new rule.

Despite being constructed, the cement-lined irrigation lateral in the site appears to meet the technical and regulatory criteria of jurisdictional Waters to the U.S. The channel is depicted as a “Riverine” feature on the USFWS National Wetlands Inventory (NWI) Map and as a “blue-line” stream on the USGS topographic map (Figure 2). The irrigation lateral appears to derive water via gravity from the Merced River several miles northeast of the site. The lateral eventually drains back in to the Merced River to the west of the site. This gravity-based hydrological regime would render the channel a jurisdictional Water of the U.S.

The remainder of the site consists of previously leveled grasslands that are vegetated with upland grasses and weeds. No vernal pools, seasonal wetlands, marshes, ponds, creeks, lakes, or any other potentially jurisdictional Water of the U.S. or wetland was observed in the site.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The presence of species with legal protection under the Endangered Species Act often represents a major constraint to development, particularly when the species are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a take of these species.

Special-status plants are those which are designated rare, threatened, or endangered and candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2020). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on CNPS List 3.

The likelihood of occurrence of listed, candidate, and other special-status species in the site is generally low. Table 3 provides a summary of the listing status and habitat requirements of special-status species that have been documented in the greater project vicinity or for which there is potentially suitable habitat in the greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Special-status plants identified in the CNDDB (2020) search include alkali milk-vetch (*Astragalus tener var. tener*), heartscale (*Atriplex cordulata var. cordulata*), brittlescale (*Atriplex depressa*), lesser saltscale (*Atriplex minuscula*), vernal pool smallscale (*Atriplex persistens*), succulent owl's clover (*Castilleja campestris ssp. succulenta*), Delta button celery (*Eryngium racemosum*), San Joaquin spearscale (*Extriplex joaquiniana*), Coulters goldfields (*Lasthenia glabrata spp. coulteri*), Heckard's pepper grass (*Lepidium latipes var. heckardii*), Merced monardella (*Monardella leucocephala*), prostrate vernal pool navarretia (*Navarretia prostrata*), Colusa grass (*Neostapfia colusana*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), and California alkali grass (*Puccinellia simplex*) (Table 3 and Attachment B). Colusa grass, succulent owl's clover and San Joaquin orcutt grass are also listed on the USFWS IPaC Trust Report.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
PLANTS						
Alkali milk-vetch	*Astragalus tener var. tener*	None	None	1B	Alkali playas and vernal pools;	Unlikely: the project site does not provide suitable habitat for this species; there are no vernal pools or alkali playas in the site. The nearest occurrence of alkali milk-vetch in the CNDDB (2020) search area is approximately 6.5 miles south of the site.
Heartscale	*Atriplex cordulata var. cordulata*	None	None	1B	Valley and foothill grassland, chenopod scrub	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat for heartscale. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 6 miles southeast of the site.
Brittlescale	*Atriplex depressa*	None	None	1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pool habitats within alkaline clay soils;	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat for brittlescale; there are also no other habitats in the site to support this species. The nearest occurrence of brittlescale in the CNDDB (2020) search area is approximately 8 miles southwest of the site.
Lesser saltscale	*Atriplex minuscula*	None	None	1B	Chenopod scrub, playas and valley and foothill grassland; in alkaline sandy soils	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat for lesser saltscale; no indicators of alkali soils were observed in the site. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 6 miles south of the project site.
Vernal pool smallscale	*Atriplex persistens*	None	None	1B	Alkaline vernal pools.	Unlikely: there is no suitable habitat in the site for vernal pool smallscale. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 7 miles southwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Succulent owl's clover	*Castilleja campestris var. succulenta*	T	E	1B	Vernal pools.	Unlikely: there are no vernal pools in the site. The nearest occurrence of succulent owl's clover in the CNDDB (2020) search area is approximately 8 miles northeast of the site. The site is not in designated critical habitat for this species (USFWS, 2005a).
Delta button celery	*Eryngium racemosum*	None	E	1B	Riparian scrub in seasonally inundated floodplain with clay substrates.	Unlikely: there is no suitable habitat in the site for this species. The nearest occurrence of Delta button celery in the CNDDB (2020) search area is approximately 8 miles southwest of the site.
San Joaquin spearscale	*Extriplex joaquinana*	None	None	1B	Chenopod scrub, alkali meadow, valley and foothill grassland	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat for this species. The nearest occurrence of San Joaquin spearscale in the CNDDB (2020) search area is approximately 8 miles southeast of the project site.
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	None	None	1B	Vernal pools in valley and foothill grassland habitats; usually found on alkaline soils.	Unlikely: there is no suitable habitat in the site for this species. The nearest occurrence of Coulter's goldfields in the CNDDB (2020) search area is approximately 7.5 miles southeast of the site.
Heckard's pepper grass	*Lepidium latipes var. heckardii*	None	None	1B	Valley and foothill grassland, vernal pools; usually alkaline soils.	Unlikely: the on-site grasslands are highly disturbed and there are no vernal pools in the site. Additionally, no alkaline soils were observed in the site. The nearest occurrence of Heckard's pepper grass in the CNDDB (2020) search area is approximately 8 miles southeast of the site.
Merced monardella	*Monardella leucocephala*	None	None	1A	Creek beds and moist sandy sub-alkaline depressions within vernal pool grassland habitats.	Unlikely: there is no suitable habitat in the site for this species. The nearest occurrence of Merced monardella is approximately 4 miles northwest of the site (CNDDB, 2020); the CNDDB describes this population as "extirpated" (i.e., no longer existent).

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Prostrate vernal pool navarretia	*Navarretia prostrata*	None	None	1B	Alkali meadows, playas, and vernal pools.	Unlikely: there is no suitable habitat in the site for this species. The nearest occurrence of prostrate vernal pool navarretia in the CNDDB (2020) search area is approximately 7 miles southwest of the site.
Colusa grass	*Neostapfia colusana*	T	E	1B	Vernal pools (large and deep)	Unlikely: there are no vernal pools in the site to support this species. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 7 miles south of the site.
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	T	E	1B	Vernal pools.	Unlikely: there are no vernal pools or seasonal wetlands in the site. The nearest occurrence of San Joaquin Valley Orcutt grass in the CNDDB (2020) search area is approximately 8 miles northeast of the site. The site is not in designated critical habitat this species (USFWS 2005a).
California alkali grass	*Puccinellia simplex*	None	None	1B	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pool habitats; in alkaline, vernally mesic sinks, flats, and lake margins.	Unlikely: there is no suitable habitat in the site for California alkali grass. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 5 miles southeast of the site.
WILDLIFE						
BIRDS						
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	High: the site provides potentially suitable foraging habitat for Swainson's hawk and large trees in and near the site could be used for nesting. A pair of Swainson's hawks were observed nesting in a tree along Main Street, approximately 80 feet from the west edge of the project site. The nearest occurrence of nesting Swainson's hawks in the CNDDB (2020) search area is approximately 2.5 miles northeast of the site, nesting along the Merced River.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Tricolored blackbird	*Agelaius tricolor*	None	CE	N/A	Nests in dense brambles and emergent wetland vegetation associated with open water habitat.	Unlikely: there is no suitable nesting habitat in or adjacent to the site. This species may occasionally fly over or forage in the area. The nearest occurrence of tricolored blackbird in the CNDDB (2020) search area is an historical (1935) observation whose location is mapped non-specifically in a large area including the project site. This record is noted to be "possibly extirpated"
Least Bell's vireo	*Vireo bellii pusillus*	E	E	N/A	Nests in willow thickets and other shrubs, primarily in southern California riparian forests.	Unlikely: there is no suitable nesting habitat in or near the site for least Bell's vireo. This species is not known from the area. The only occurrence of least Bell's vireo in the CNDDB (2020) search area is an historical (1919) observation whose location is not really known; it is mapped non-specifically in downtown Delhi, approximately 5 miles northwest of the site.
MAMMALS						
American badger	*Taxidea taxus*	None	SC	N/A	Drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Unlikely: the site does not provide suitable habitat for American badger and no dens were observed during the field surveys. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 10 miles southwest of the site.
San Joaquin kit fox	*Vulpes macrotis mutica*		E	N/A		Unlikely: the site does not provide suitable habitat for san Joaquin kit fox and no dens were observed during the field surveys. There are no occurrences of this species in the CNDDB (2020) within the search area.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
AMPHIBIANS AND REPTILES						
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Breeds in seasonal water bodies such as deep vernal pools or stock ponds. Requires small mammal burrows for summer refugia.	Unlikely: there are no suitable breeding ponds for California tiger salamander in the site and the sandy soils through the site is not suitable for aestivation. The nearest occurrence of this species in the CNDDB (2019) search area is approximately 10.5 miles southwest of the site. The site is not within an area designated critical habitat for California tiger salamander (USFWS, 2005b).
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams; adapted to drainage canals and irrigation ditches, primarily for dispersal or migration.	Unlikely: there is no suitable habitat in the site for giant garter snake and this species is not known from the area. There are no occurrences of giant garter snake in the CNDDB (2020) search area.
Blunt-nosed leopard lizard	*Gambelia silus*	E	E	N/A	Sparsely vegetated alkali and desert scrub habitats in areas of low topographic relief. Requires small mammal burrows for cover.	Unlikely: the site does not contain suitable habitat for blunt-nosed leopard lizard. There are no occurrences of this species recorded in the CNDDB (2020) search area.
California red-legged frog	*Rana draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of water with vegetation.	Unlikely: there is no suitable aquatic habitat for California red-legged frog in or near the site. There are no occurrences of this species recorded in the CNDDB (2020) search area. The site is not in designated for California red-legged frog critical habitat (USFWS, 2006).
Western pond turtle	*Emys marmorata*	None	SC	N/A	Permanent or semi-permanent water bodies; require basking sites such as logs.	Unlikely: there is no suitable aquatic habitat for western pond turtle in project site. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 2 miles northwest of the site.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Northern California legless lizard	*Anniella pulchra*	None	SC	N/A	Sandy or loose loamy soils under sparse vegetation.	Unlikely: the site provides poor quality habitat for this species. The nearest occurrence of northern California legless lizard in the CNDDB (2020) search area is approximately 3 miles northwest of the site.
Coast horned lizard	*Phrynosoma blainvillii*	None	SC	N/A	Coniferous forest, deciduous forest, scrub, and grassland habitats, usually in sandy soils.	Unlikely: the on-site grasslands are highly disturbed and do not provide suitable habitat for coast lizard. The nearest occurrence of this species in the CNDDB (2020) search area is approximately 6.5 miles southeast of the site.
Western spadefoot	*Spea hammondii*	None	SC	N/A	Breeds and lays eggs in seasonal water bodies such as deep vernal pools or stock ponds.	Unlikely: there is no suitable aquatic habitat for western spadefoot in the site. The nearest occurrence of western spadefoot in the CNDDB (2020) search area is approximately 10 miles southwest of the site.
FISH						
Steelhead – Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	Unlikely: there is no suitable aquatic habitat for Central Valley steelhead in the site. The nearest occurrence of Central Valley steelhead in the CNDDB (2020) search area is in the Merced River, approximately 2 miles northwest of the site. The site is not within designated critical habitat for Central Valley steelhead (NOAA, 2005).
Delta smelt	*Hypomesus transpacificus*	T	T	N/A	Shallow lower delta waterways with submersed aquatic plants and other suitable refugia.	None: there is no suitable aquatic habitat in the site for this species and the site is well outside the species' range. There are no occurrences of delta smelt recorded in the CNDDB (2020) within the search area. The site is not within designated critical habitat for delta smelt (USFWS, 1994).

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Hardhead	*Mylopharodon conocephalus*	None	SC	N/A	Clear, deep pools with sand and gravel bottoms in tributaries to the San Joaquin River and Sacramento River.	None: there is no suitable aquatic habitat for this species in the site. The closest occurrence of hardhead in the CNDDB (2020) search area is approximately 7 miles southwest of the site.
INVERTERBRATES						
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	None	N/A	Vernal pools and seasonally inundated depressions in the Central Valley.	Unlikely: there are no vernal pools or seasonal wetlands in the site. The nearest occurrence of vernal pool fairy shrimp in the CNDDB (2020) is approximately 8 miles south of the site. The site is not in designated critical habitat for vernal pool fairy shrimp (USFWS, 2005a).
Vernal pool tadpole shrimp	*Lepidurus packardi*	E	None	N/A	Vernal pools and seasonally wet depressions within the Central Valley	Unlikely: there are no vernal pools or seasonal wetlands in the site. The nearest occurrence of vernal pool tadpole shrimp in the CNDDB (2020) is approximately 7 miles southwest of the site. The site is not within designated critical habitat for vernal pool tadpole shrimp (USFWS, 2005a).
Conservancy fairy shrimp	*Branchinecta conservatio*	T	None	N/A	Vernal pools and seasonal wetlands.	Unlikely: there are no vernal pools or seasonal wetlands in the site. The nearest occurrence of Conservancy fairy shrimp in the CNDDB (2020) search area is approximately 8 miles southeast of the site. The site is not within designated critical habitat for this species (USFWS 2005a).
Longhorn fairy shrimp	*Branchinecta longiantennae*	E	None	N/A	Vernal pools	Unlikely: there are no vernal pools in the site. The nearest occurrence of longhorn fairy shrimp in the CNDDB (2020) search area is approximately 11 miles southwest of the site. The site is not in designated critical habitat for this species (USFWS 2005a).

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED IN THE GREATER PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[1]	CNPS List[2]	Habitat	Likeliness of Occurrence in the Project Site
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs in the Central Valley and surrounding foothills	Unlikely: no blue elderberry shrubs were observed in the site. The nearest occurrence of valley elderberry longhorn beetle in the CNDDB (2020) search area is approximately 3 miles northeast of the site.

Notes:

1 T= Threatened; E = Endangered; CE = Candidate for Endangered; SC = Species of Special Concern per California Department of Fish and Wildlife.

2 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes plants that are rare, threatened or endangered in California but are more common elsewhere.

Special-status plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, seasonal wetlands, riparian scrub, and areas with unusual soils. The disked field and grasslands in the site are highly disturbed and do not provide suitable habitat for any of the plants in Table 3 or other special-status plants. Due to lack of suitable habitat, no special-status plant species are expected to occur in the site.

SPECIAL-STATUS WILDLIFE: The potential for intensive use of habitats within the project site by special-status wildlife species is also very low. Special-status wildlife species that have been recorded in greater project vicinity in the CNDDB (2020) include Swainson's hawk, tricolored blackbird (*Agelaius tricolor*), least Bell's vireo (*Vireo bellii pusillus*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), California tiger salamander (*Ambystoma californiense*), western pond turtle (*Emys marmorata*), northern California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma blainvillii*), western spadefoot (*Spea hammondii*), Central Valley steelhead (*Oncorhynchus mykiss*), hardhead (*Mylopharodon conocephalus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantennae*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Although not included in the CNDDB within the search area, giant garter snake (*Thamnophis gigas*), California red-legged frog (*Rana aurora draytonii*), blunt-nosed leopard lizard (*Gambelia silus*) and delta smelt (*Hypomesus transpacificus*) are listed in the USFWS IPaC Trust Resource Report (Attachment B).

While the project site may have provided habitat for special-status wildlife species at some time in the past, farming and development have substantially modified natural habitats in the greater project vicinity. Of the wildlife species identified in the CNDDB, Swainson's hawk is the only species with potential to occur in the site on more than a transitory or very occasional basis. Other special-status birds, including tricolored blackbird, may fly over or forage in the

area on occasion, but would not be expected to nest in or immediately adjacent to the project site.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The site is within the nesting range of Swainson's hawks, although this species is not widespread in this part of the San Joaquin Valley. The CNDDB (2020) contains only a few records of nesting Swainson's hawks in the greater project vicinity (Attachment B). The nearest occurrence of nesting Swainson's hawks in the CNDDB (2020) search area is approximately 2.5 miles northeast of the site along the Merced River.

A pair of Swainson's hawks was observed nesting at the top of a large ornamental cedar tree along Main Street, approximately 80 feet from the west edge of the project site (see photographs in Attachment C). During the survey, what is assumed to be the male of the pair, was observed bringing both nesting material and a prey item to the female, who was sitting in the nest during the duration of the survey. Based on this behavior, it is believed the female is

currently incubating eggs. All relatively large trees in and viewable from the site and trees along the utility alignment were scanned for Swainson's hawks and other nesting raptors, and none were observed. The ruderal grassland fields in the site provide suitable foraging habitat for Swainson's hawks.

California Department of Fish and Game's (CDFG) 1994 Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California recommends projects converting Swainson's hawk foraging habitat to other uses provide compensatory habitat mitigation. In cases where an active nest is within one mile of the site, the Staff Report recommends providing mitigation at a ratio of 1:1. Wildlands has two banks near Merced in close proximity to each other that provide Swainson's hawk foraging habitat (Attachment D). The "Great Valley" and "Deadman Creek" banks currently have over 1,000 acres available. These banks are well within the species range, provide suitable foraging habitat, and are viable options for the project.

OTHER SPECIAL-STATUS SPECIES: The site does not provide highly suitable habitat for other special-status wildlife species. Special-status birds may fly over the area on occasion, but few, if any, would be expected to use on-site habitats on more than an occasional or transitory basis, primarily due to lack of habitat. For example, the site does not contain riparian vegetation or expansive stands of emergent wetland vegetation to provide suitable nesting habitat for tricolored blackbirds.

The site does not provide suitable denning habitat for American badger or San Joaquin kit fox. The site does not provide suitable aquatic habitat for any species of fish, California red-legged frog, California tiger salamander, giant garter snake, western pond turtle, or western spadefoot. There is no suitable scrub habitat or vegetation cover in the site for blunt-nosed leopard lizard, coast horned lizard or northern California legless lizard. There are no vernal pools or seasonal wetlands in the site for vernal pool branchiopods (i.e., fairy and tadpole shrimp). There are

no blue elderberry shrubs in the site, precluding the potential occurrence of valley elderberry longhorn beetle.

CRITICAL HABITAT: The site is not in designated critical habitat for California red-legged frog (USFWS, 2006), federally listed vernal pool shrimp or plants (USFWS, 2005a), California tiger salamander (USFWS, 2005a), delta smelt (USFWS, 1994), valley elderberry longhorn beetle (USFWS, 1980), Central Valley steelhead (NOAA, 2005), or other federally listed species (Attachment E).

Conclusions and Recommendations

- The site consists of opens field vegetated in upland grasses and weeds that are periodically disked and/or mowed. On-site habitats are biologically unremarkable.

- The irrigation lateral in the site is the only feature identified as a potentially jurisdictional Waters of the U.S. or wetland in the site. Relocation of this lateral or conversion of this open lateral to a pipe to accommodate the project would be exempt from ACOE 404 permit requirements pursuant to Regulatory Guidance Letter 07-02 (ACOE. 2007).

- Due to a lack of suitable habitat, it is unlikely that special-status plants occur in the site.

- With the exception of Swainson's hawk, no special-status wildlife species are expected to occur in the body of the site on more than a very occasional or transitory basis. A pair of Swainson's hawks are currently nesting in a tree approximately 80 feet west of the project site. The site provides suitable foraging habitat and Swainson's hawks likely utilize grasslands in the site for foraging.

- The project will result in the conversion of Swainson's hawk foraging habitat to other uses. Provision of compensatory habitat mitigation at a ratio of 1:1 would reduce this impact to a less than significant level. The "Great Valley" and "Deadman Creek" banks are well within the species range, provide suitable foraging habitat, and are viable options for the project.

- A pre-construction survey for nesting Swainson's hawks within 0.25 miles of the project site is recommended if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should utilize criteria set forth by CDFW (CDFG, 1994).

- Trees and grasslands in the site could be used by birds protected by the Migratory Bird Treaty Act of 1918. If vegetation removal or construction commences during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds is recommended. If active nests are found, work in the vicinity of the nests should be delayed until the young fledge.

- The site is not in designated critical habitat of any federally listed species.

We hope this information is useful. Please call me at (209) 745-1159 with any questions.

Sincerely,



Diane S. Moore, M.S.
Principal Biologist

References and Literature Consulted

ACOE (U.S. Army Corps of Engineers). 1987. Technical Report Y87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MI.

ACOE. 2007. Regulatory Guidance Letter (RGL) No. 07-02. Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches Under Section 404 of Clean Water Act.

ACOE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. U.S. Army Engineer Research and Development Center, Vicksburg, MS. September.

CDFG (California Department of Fish and Game). 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Wildlife, Sacramento, California. March 7.

CNDDB (California Natural Diversity Database). 2019. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

CNDDB. 2020. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org

National Oceanic and Atmospheric Administration (NOAA). 2005. Endangered

and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 70 (170): 52488-52585. September 2, 2005.

Sawyer & Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento. California.

USFWS (United States Fish and Wildlife Service). 1980a. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45 No. 155, pp. 52803-52807, August 8.

USFWS. 1994. Final Critical Habitat for the Delta Smelt (*Hypomesus transpacificus*). Federal Register Vol. 59, No. 242, December 19, 1994, pp. 65256 – 65279.

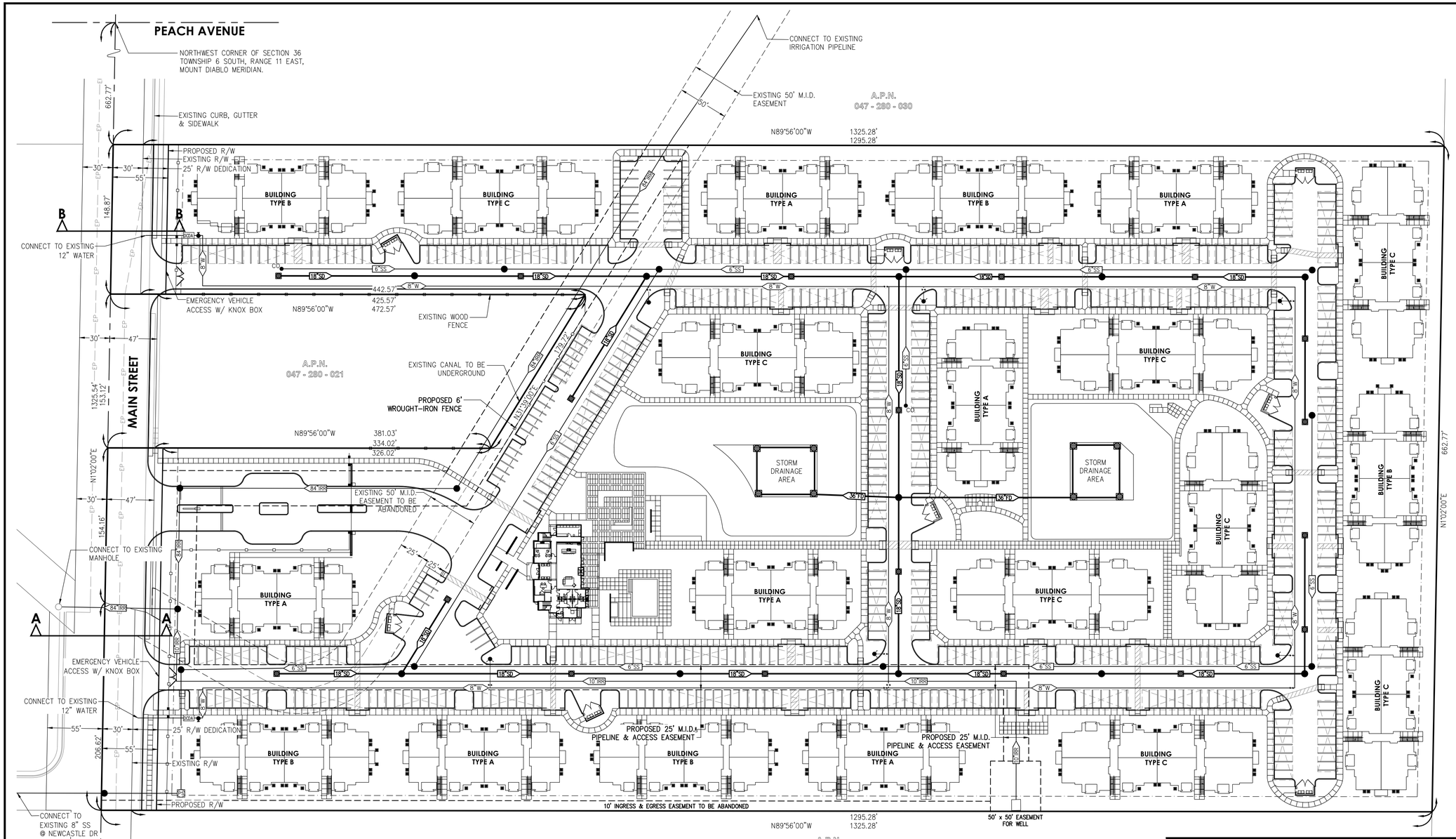
USFWS. 2005a. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation and Economic Exclusions from August 2003 Final Designation, Final Rule. Federal Register Vol. 70, No. 154, August 11.

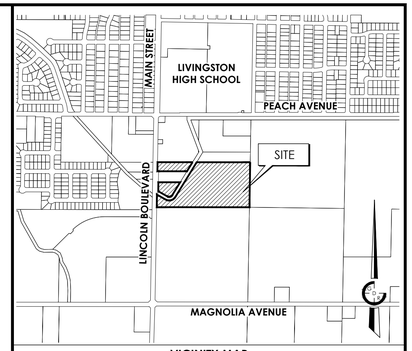
USFWS. 2005b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register Vol. 70, No. 162, August 23, 2005, pp. 49390 – 49458.

USFWS. 2006a. Part II, Department of the Interior, Fish and Wildlife Service. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for California Red-Legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities, Final Rule. Federal Register Vol. 71, No. 71, April 13.

Attachment A

Site Plan





VICINITY MAP
NOT TO SCALE

PROPERTY OWNER / APPLICANT

PROPERTY OWNER(S):	HARVINDER S. & SALINDER K. BHANGU / SUKHINDER S. & KULVINDER SANGHERA
CONTACT:	SAKE SANGHERA
ADDRESS:	6473 E. HATCH ROAD
CITY/STATE/ZIP:	HUGHSON, CA 95326
PROJECT ADDRESS:	MAIN STREET
CITY/STATE/ZIP:	LIVINGSTON, CA 95334

PROJECT TEAM

NAME:	API ARCHITECTURE PLUS, INC.
CONTACT:	JOE SMITH
ADDRESS:	4335-B NORTH STAR WAY
CITY/STATE/ZIP:	MODESTO, CA 95356
PHONE:	209.577.4661
EMAIL:	joe@apiarc.com
NAME:	KLA, INC.
CONTACT:	MATT HAWKS
ADDRESS:	151 N. NORLIN STREET
CITY/STATE/ZIP:	SONORA, CA 95370
PHONE:	209.532.2856
EMAIL:	matt@kla-ca.com

EXISTING CONDITIONS

A.P.N.:	047-280-020 & 047-280-029
EXISTING PARCELS:	2
EXISTING ACREAGE:	±18.7 ACRES (GROSS) ±17.3 ACRES (AS SHOWN ON ASSESSORS PARCEL MAP)
EXISTING GENERAL PLAN:	HD (HIGH DENSITY RESIDENTIAL)
EXISTING ZONING:	R-3 (HIGH DENSITY RESIDENTIAL)

PROPOSED PROJECT

(20) 3 STORY BUILDINGS WITH 24 UNITS EACH = 480 TOTAL UNITS
(1) TWO STORY COMMUNITY CENTER

DENSITY: 27.7 UNITS PER ACRE

PARKING STALLS REQUIRED:

1 SPACE PER UNIT:	480 STALLS
1 VISITOR SPACE / 10 UNITS:	48 STALLS
TOTAL SPACES REQUIRED:	528 STALLS

PARKING STALLS PROVIDED:

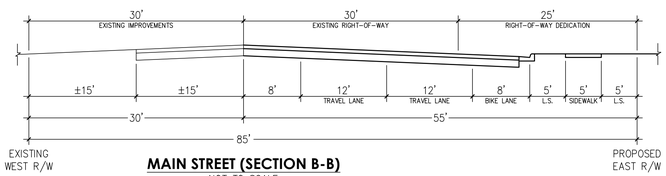
COVERED:	453 STALLS
UNCOVERED:	134 STALLS
TOTAL SPACED PROVIDED:	587 STALLS

PARKING RATIO: 1.22 STALLS PER UNIT

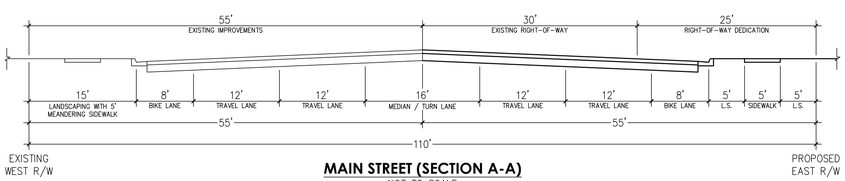
NOTES

WATER:	CITY OF LIVINGSTON
SANITARY SEWER:	CITY OF LIVINGSTON
STORM DRAINAGE:	CITY OF LIVINGSTON

1. DEVELOPER RESERVES THE RIGHT TO DEVELOP PROJECT IN MULTIPLE PHASES.
2. PHASE LINES TO BE DETERMINED.



MAIN STREET (SECTION B-B)
NOT TO SCALE



MAIN STREET (SECTION A-A)
NOT TO SCALE

50 25 0 50 100
(If this sheet is not 24x36, it is a reduced print)

BUILDING / UNIT DATA

	1 BDRM	2 BDRM	3 BDRM	# UNITS/BLDG	# OF BLDGS	STORIES
BUILDING A	84	84	~	24	7	3
BUILDING B	~	120	~	24	5	3
BUILDING C	~	96	96	24	8	3
COMMUNITY	N/A	N/A	N/A	N/A	1	2
				TOTAL UNITS		
UNIT TOTAL	84 (17%)	300 (63%)	96 (20%)	480		

LEGEND

EXISTING		PROPOSED
12"W	DOMESTIC WATER	W
	FIRE WATER	FW
	IRRIGATION LINE	IRR
8"SS	SANITARY SEWER	SS
18"SD	STORM DRAINAGE	SD
	FRENCH DRAIN	FD
EP	EDGE OF PAVEMENT	
WV	WATER VALVE	WV
WM	WATER METER	WM
BFP	BACKFLOW PREVENTER	BFP
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	DCDA
	FIRE HYDRANT	
	MANHOLE	
	CATCH BASIN	
CO	SEWER CLEAN OUT	CO
	EASEMENTS	
	CURB & GUTTER	

ABBREVIATIONS

BFP	BACKFLOW PREVENTER
CO	CLEAN OUT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
EP	EDGE OF PAVEMENT
FD	FRENCH DRAIN
FW	FIRE WATER
IRR	IRRIGATION
P.U.E.	PUBLIC UTILITY EASEMENT
R/W	RIGHT OF WAY
SD	STORM DRAIN
SS	SANITARY SEWER
TE	TRASH ENCLOSURE
W	WATER
WM	WATER METER

REGISTERED PROFESSIONAL ENGINEER
JASON K. CHAPMAN
No. 66134
CIVIL
STATE OF CALIFORNIA

DATE SIGNED:

GDR ENGINEERING, INC.
ENGINEERING/SURVEYING/PLANNING
3525 MITCHELL ROAD, SUITE G CERES, CA 95307
TELEPHONE: (209) 538-3360 FAX: (209) 538-7370
WWW.GDRENGINEERING.COM

CONCEPTUAL SITE PLAN & UTILITY PLAN FOR THE VILLAGES @ MAIN

SCALE: 1"=50' DATE: 03/04/2020
DWG NO. 18075 Site Plan 2020-03-xx.dwg
DRAWN: J. JANTZ
CHECKED: J. CHAPMAN
SHEET: 1 OF 1
FILE NO. 18075

Attachment B

CNDDB Summary Report and Exhibits

& USFWS IPaC Trust Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Turlock (3712047) OR Cressey (3712046) OR Stevinson (3712037) OR Arena (3712036))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex persistens vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta longiantenna longhorn fairy shrimp	ICBRA03020	Endangered	None	G1	S1S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja campestris var. succulenta succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Dipodomys heermanni dixoni Merced kangaroo rat	AMAFD03062	None	None	G3G4T2T3	S2S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Monardella leucocephala Merced monardella	PDLAM180C0	None	None	GX	SX	1A
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Neostapfia colusana Colusa grass	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Orcuttia inaequalis San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Valley Sacaton Grassland Valley Sacaton Grassland	CTT42120CA	None	None	G1	S1.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Vulpes macrotis mutica	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin kit fox						

Record Count: 42

heartscale subtle orache

San Joaquin Valley Orcutt grass

Northern Hardpan Vernal Pool

succulent owl's-clover

Merced monardella

Project Site

California alkali grass

prostrate vernal pool navarretia

Delta button-celery

Delta button-celery

vernal pool smallscale

vernal pool smallscale

Delta button-celery

Valley Sacaton Grassland

heartscale

Delta button-celery

brittlescale

alkali milk-vetch

Coulter's goldfields

vernal pool smallscale

vernal pool smallscale

Northern Claypan Vernal Pool

heartscale

alkali milk-vetch

Colusa grass

prostrate vernal pool navarretia

Coulter's goldfields

alkali milk-vetch

San Joaquin spearscale

vernal pool smallscale

Colusa grass

Hoover's spurge

Colusa grass

vernal pool smallscale

Sanford's arrowhead

heartscale

Delta button-celery

Delta button-celery

vernal pool smallscale

Delta button-celery

Delta button-celery

Delta button-celery

Delta button-celery

hwater Marsh

navarretia

CERES

DENAIR

MONTPELIER

TURLOCK LAKE

HATCH

TURLOCK

CRESSEY

WINTON

GUSTINE

STEVINSON

ARENA

ATWATER

SAN LUIS RANCH

TURNER RANCH

SANDY MUSH

CNDDB PLANT

The Village at Main

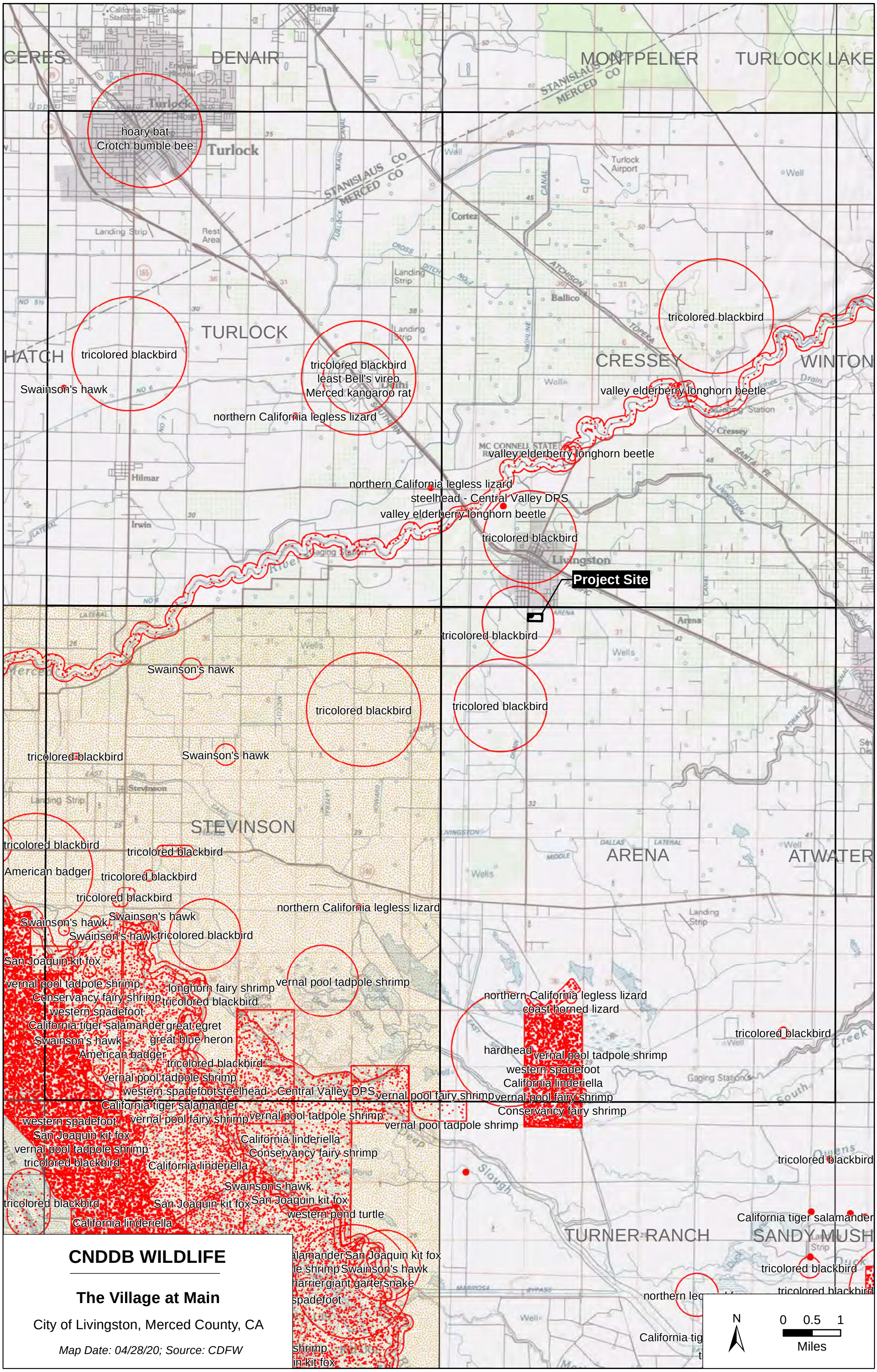
City of Livingston, Merced County, CA

Map Date: 04/29/20; Source: CDFW

N

0 0.5 1

Miles


CERES
DENAIR
MONTPELIER
TURLOCK LAKE
TURLOCK
HATCH
CRESSEY
WINTON
STEVINSON
ARENA
ATWATER
TURNER RANCH
SANDY MUSH
Project Site
hoary bat
Crotch bumble bee
tricolored blackbird
Swainson's hawk
least Bell's vireo
Merced kangaroo rat
northern California legless lizard
valley elderberry longhorn beetle
steelhead - Central Valley DPS
American badger
vernal pool tadpole shrimp
vernal pool fairy shrimp
longhorn fairy shrimp
Conservancy fairy shrimp
western spadefoot
California tiger salamander
great egret
great blue heron
California linderiella
western pond turtle
coast horned lizard
hardhead
San Joaquin kit fox
giant gartersnake
Turlock
Hilmar
Irwin
Livingston
Cressey
Ballico
Cortez
Stevinson
Wells
Arena
Turlock Airport
MC CONNELL STATE
Landing Strip
Gaging Station
STANISLAUS CO
MERCED CO
CANAL
TURLOCK MAIN CANAL
ATCHISON TOPEKA
SANTA FE
LIVINGSTON
CROSS DITCH NO 1
HIGHLINE
DALLAS LATERAL
MIDDLE
Slough
Creek
Drain
Rest Area
Well
CNDDB WILDLIFE
The Village at Main
City of Livingston, Merced County, CA
Map Date: 04/28/20; Source: CDFW
N
0 0.5 1
Miles

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Merced County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

San Joaquin Kit Fox Vulpes macrotis mutica — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard Gambelia silus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake Thamnophis gigas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

NOT FOR CONSULTATION

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Colusa Grass Neostapfia colusana There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5690	Threatened
Fleshy Owl's-clover Castilleja campestris ssp. succulenta There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8095	Threatened
San Joaquin Orcutt Grass Orcuttia inaequalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5506	Threatened

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS

NOT FOR CONSULTATION

ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

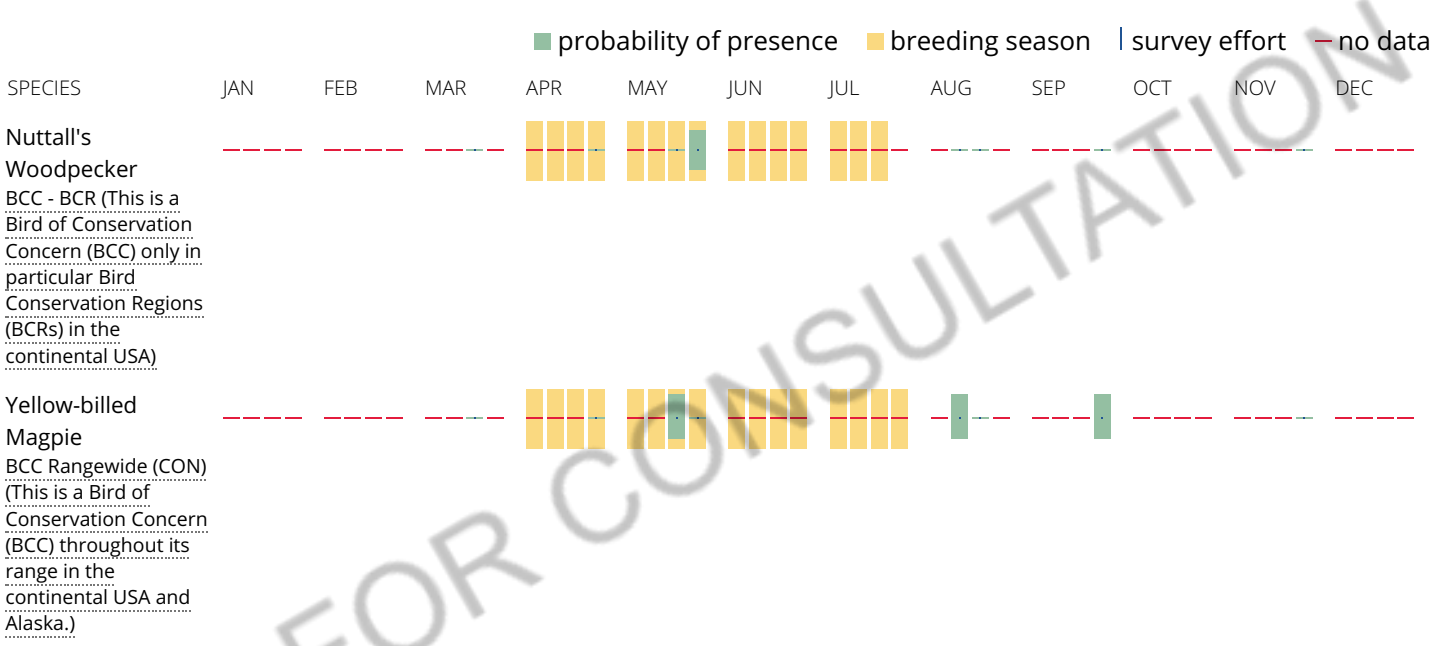
NOT FOR CONSULTATION

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



NOT FOR CONSULTATION

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

NOT FOR CONSULTATION

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

NOT FOR CONSULTATION

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R5UBFx
R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment C

Photographs



Ruderal grassland field in the northwest part of the site, looking west from the irrigation lateral in the site; 04/28/20.



Field just south of the residence in the site, looking east from the west edge of the site (Main Street); 04/28/20. The field is dominated by bearded wheat.



East edge of the site, looking south from the northeast corner of the site; 04/28/20. The field adjacent to the site is being farmed in a wheat crop.



South edge of the site, looking west from the southeast corner of the site; 04/28/20. The field to the south of the site is also being farmed in a wheat crop.



Ruderal grassland in the body of the site, looking south from the north edge of the site; 04/28/20.



North edge of the site, looking west from the northeast corner of the site; 04/28/20.



Irrigation lateral in the site, looking east from the west edge of the site (Main Street); 04/28/20. No nesting birds were observed in the small trees located along the lateral.



Newcastle Drive, looking west from Main Street; 04/28/20. A sewer line will be constructed down the center of Newcastle Drive as part of the project.



Main Street, looking south from the corner of Main Street and Peach Avenue; 04/28/20. Sewer lines will be placed down the center of this road as part of the project.



Peach Avenue, looking east from the corner of Peach Avenue and Emerald Avenue; 04/28/20. Sewer lines will be placed down the center of this road as part of the project. All large trees near where the water lines will be installed were scanned for nesting birds.



West edge of the site, looking north along Main Street from the southwest corner of the site; 04/28/20. The Swainson's hawk nest tree is located approximately 80 feet west of the project site.



West edge of the site, looking north along Main Street toward the northwest corner of the site; 04/28/20.



Swainson's hawk perched just north of the project site, looking northwest; 04/28/20. This hawk is nesting is a tree on the west side of Main Street approximately 80 feet from the west edge of the site.



Swainson's hawk (circled) sitting in a nest on a tree located just west of the site, looking southwest from Main Street; 04/28/20. This hawk's mate (pictured above) was observed bringing over nest material and a prey item to its mate in the nest druing the recent survey.



Irrigation lateral in the site, looking southwest from the north edge of the site; 04/28/20.



Cliff swallows nesting under a small bridge over the irrigation lateral in the north part of the site, looking northeast; 04/28/20.

Attachment D

Mitigation Bank Information

Deadman Creek Conservation Bank

The Deadman Creek Conservation Bank (DCCB) is located approximately 7 miles south of the city of Merced, approximately 10 miles south by southeast of the city of Atwater, approximately 15 miles northwest of the city of Chowchilla and approximately 20 miles northeast of the city of Los Banos in an unincorporated portion of central Merced County, California (**Figure 1**). The DCCB is located within the U.S. Fish and Wildlife Service (USFWS) Grasslands Ecological Core Area of the San Joaquin Valley Vernal Pool Recovery Unit, approximately 5 miles east of the San Luis National Wildlife Refuge (NWR) Complex.

The DCCB consists of 44.66 acres of wetlands (vernal pool and swale habitat), and 639.24 acres of upland habitat (annual grassland) for a total size of 683.9 acres. The habitat types found onsite include annual grasslands, vernal pools, vernal swales (which also includes seasonal wetlands and seasonal swales), and an intermittent drainage (Deadman Creek, which is not part of the DCCB).

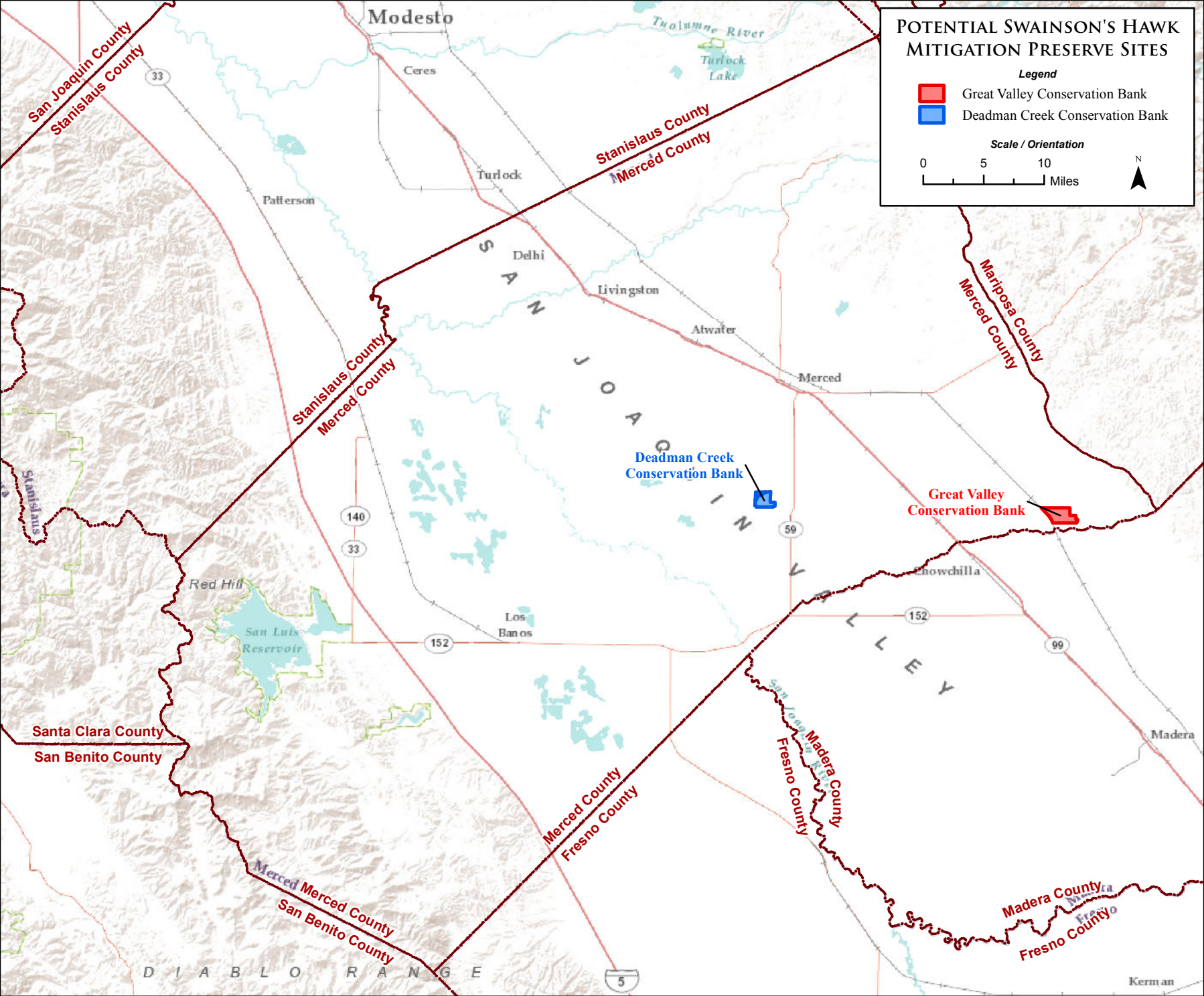
Great Valley Conservation Bank

The Great Valley Conservation Bank (GVCB) is located north of the city of Chowchilla, immediately north of Marguerite Road and east of Santa Fe Avenue, in an unincorporated portion of central Merced County, California (**Figure 1**).

The GVCB consists of 117.26 acres of wetlands (vernal pool and swale habitat), and 949.75 acres of upland habitat (annual grassland) for a total size of 1067 acres. The habitat types found onsite include annual grasslands, vernal pools, and vernal swales (which also includes seasonal wetlands and seasonal swales).

Swainson's Hawk Habitat

The vernal pool grasslands found on both the DCCB and GVCB provide high quality foraging habitat for Swainson's hawk and Swainson's hawks have been documented actively foraging on and above the DCCB. Past project applicants have obtained local approvals to use the upland credits at the DCCB to mitigate for California Environmental Quality Act (CEQA) impacts to Swainson's hawk foraging habitat.


Potential Swainson's Hawk Mitigation Preserve Sites
Legend
Great Valley Conservation Bank
Deadman Creek Conservation Bank
Scale / Orientation
0 5 10
Miles
N
Modesto
Ceres
Turlock
Patterson
Delhi
Livingston
Atwater
Merced
Los Banos
Red Hill
San Luis Reservoir
Chowchilla
Madera
Kerman
Deadman Creek Conservation Bank
Great Valley Conservation Bank
San Joaquin County
Stanislaus County
Merced County
Mariposa County
Madera County
Fresno County
Santa Clara County
San Benito County
SAN JOAQUIN VALLEY
DIABLO RANGE
33
140
152
59
99
5

Attachment E

Designated Critical Habitat

- Steelhead
- Colusa grass
- Conservancy fairy shrimp
- Hoover's spurge
- Longhorn fairy shrimp
- Vernal pool fairy shrimp\Vernal pool tadpole shrimp

MONTPELIER
TURLOCK LAKE
HATCH
TURLOCK
CRESSEY
WINTON
GUSTINE
STEVINSON
ARENA
ATWATER
INCOMAR
SAN LUIS RANCH
TURNER RANCH
SANDY MUSH

Project Site

CRITICAL HABITAT

The Village at Main

City of Livingston, Merced County, CA

Map Date: 014/29/20; Source: USFWS

N

0 0.5 1

Miles

APPENDIX D
CENTRAL CALIFORNIA INFORMATION CENTER REPORT

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: September 7, 2018

CCaIC File #: 10833I
Re: Project: GDR Engineering Project, Sanghera Apartments, E. Main St., Livingston, CA, APN 047-280-029

Allison Getty
BaseCamp Environmental, Inc.
115 S. School St., Suite 14
Lodi, CA 95240

Email: agetty@basecampenv.com

Dear Ms. Getty,

We have conducted a records search as per your request for the above-referenced project area located on the Arena USGS 7.5-minute quadrangle map in Merced County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), *California Inventory of Historic Resources* (DPR 1976), the *California Historical Landmarks* (1990), and the California Points of Historical Interest listing (May 1992 and updates), the Directory of Properties in the Historic Property Data File (HPDF) and the Archaeological Determinations of Eligibility (ADOE) (Office of Historic Preservation current computer lists dated 3-20-2014 and 4-05-2012, respectively), the *Survey of Surveys* (1989), GLO Plats and other historic maps on file for the area, and other pertinent historic data available at the CCIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

0 prehistoric or historic archaeological resources have been reported to the CCaIC.

1 historic-era feature reported: Primary File #P-24-000093 Arena Canal.
It has been formally recorded and evaluated at two other locations not on this parcel (Caltrans 10/2000; JRP 6/1993) and considered to be ineligible for the NRHP (Caltrans also considered it ineligible for the CRHR or local listings). It has also been surveyed and evaluated as not eligible for the NRHP and having poor integrity, along the length that was surveyed by L. Napton and M. Peak (see studies, below), which would include the length in and adjacent to the Sanghera project parcel. Peak recommended that the agency (for their project) should seek concurrence with the SHPO on Peak's findings of "no historic properties affected"; and regarding CEQA, that there was no impact to significant cultural resources from implementation of that project. The CCaIC finds no reason to dispute these findings.

Prehistoric or historic resources within the immediate vicinity of the project area:

0 prehistoric or historic archaeological resources or historic properties have been reported to the CCaIC.

Resources that are known to have value to local cultural groups:

None have been formally reported to the Information Center.

Previous investigations within the project area:

3 have been reported to the CCaIC within this area:

CCaIC Report #ME-
02863 Napton, L. K. (1996)
Cultural Resources Inspection of the Livingston Distribution Loop Project, Merced County, California (Fourth Addendum to: Cultural Resources Investigations of the Proposed Livingston Cogeneration Project, Merced and Stanislaus Counties, California [1992]).
[FIELD SURVEY-narrow linear corridor- adjacent to Arena Canal]

03631 Quad Knopf (1999)
General Plan, Livingston, California.
[OVERVIEW OF BROAD AREA; NO FIELD SURVEY of project parcel]

07715 Peak, M.A. (2012)
Determination of Eligibility and Effect for the Lincoln Courtyard Apartments Project, City of Livingston, California.
[FIELD SURVEY of entire project parcel]

Previous investigations within the immediate vicinity of the project area:

1 field survey reported on an adjacent parcel:

CCaIC Report #ME-
07431 Peak, M. (2009)
Determination of Eligibility and Effect for the Livingston Family Apartments Project, City of Livingston, California

Recommendations/Comments:

Based on existing data in our files the project area has a low sensitivity for the possible discovery of prehistoric or historic-era archaeological resources, and a low sensitivity for significant historic-era features (we concur with the findings and evaluations in the reports by L. Napton and Peak & Associates). No recommendations for further study are offered at this time.

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. There may be unidentified features involved in your project that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline. If you should need it, The Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at http://chrisinfo.org

We advise you that in accordance with State law, if any historical resources are discovered during project-related activities, all work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find. If Native American remains are found the County Coroner and the Native American Heritage Commission, Sacramento (916-373-3710) are to be notified immediately for recommended procedures.

We further advise you that if you retain the services of a historical resources consultant, the firm or individual you retain is responsible for submitting any report of findings prepared for you to the Central California Information Center, including one copy of the narrative report and two copies of any records that document historical resources found as a result of field work. If the consultant wishes to obtain copies of materials not included with this records search reply, additional copy or records search fees may apply.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

We thank you for using the California Historical Resources Information System (CHRIS). Please let us know when we can be of further service. Please sign and return the attached Access Agreement Short Form.

Note: Billing ($150.00) will be transmitted separately via email from our Financial Services Office (lamarroquin@csustan.edu or MSR270@csustan.edu), payable within 60 days of receipt of the invoice.

Sincerely,

R. L. Hards, Assistant Research Technician
Central California Information Center
California Historical Resources Information System

*Invoice to: Laurie Marroquin lamarroquin@csustan.edu, Financial Services

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System

Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

California Historical Resources Information System

ACCESS AGREEMENT SHORT FORM

Number. _____

I, the undersigned, have been granted access to historical resources information on file at the **Central California Information Center** of the California Historical Resources Information System.

I understand that any CHRIS Confidential Information I receive shall not be disclosed to individuals who do not qualify for access to such information, as specified in Section III(A-E) of the CHRIS Information Center Rules of Operation Manual, or in publicly distributed documents without written consent of the Information Center Coordinator.

I agree to submit historical Resource Records and Reports based in part on the CHRIS information released under this Access Agreement to the Information Center within sixty (60) calendar days of completion.

I agree to pay for CHRIS services provided under this Access Agreement within sixty (60) calendar days of receipt of billing.

I understand that failure to comply with this Access Agreement shall be grounds for denial of access to CHRIS Information.

Print Name:_____ Date: _____

Signature: _____

Affiliation: _____

Address: City/State/Zip: _____
Billing Address (if different from above): _____

Telephone:_____ Fax:_____ Email: _____
Purpose of Access: _____

Reference (project name or number, title of study, and street address if applicable):
_____

County: Township/Range/Section or UTMs: _____

USGS 7.5' Quad: _____

APPENDIX E
NOISE MODELING RESULTS

	A	B	C	D	E
1	**PREDICTED HIGHWAY AND ROAD NOISE,**				
2	**DAY-NIGHT AVERAGE NOISE LEVELS**		**Project: LIVINGSTON**		
3	**BASECAMP ENVIRONMENTAL**		**APARTMENTS**		
4					
5		**SEGMENT**	**ADT**	**LANES**	**TRUCK %**
6					
7	Valid for vehicle speeds from 25 to 65 miles per hour				
8	**SEGMENT**	**1**	**2**	**3**	**4**
9	**INPUTS TO MODEL**				
10	Segment Name				
11	Average Daily Traffic	3088	3088	6128	6128
12	% Traffic, Day	90	90	90	90
13	% Traffic, Night	10	10	10	10
14	% Medium Trucks (2 axle)	3	3	3	3
15	% Heavy Trucks (3+ axle)	2	2	2	2
16	Speed (mph)				
17	Auto	25	35	25	35
18	Medium Truck	25	35	25	35
19	Heavy Truck	25	25	35	25
20	Hard (10) or Soft (15) Site	15	15	15	15
21	Ref dist (ft) to ROW	50	50	50	50
22	Ft from ROW to CL near lane	23	17	33	23
23	Ft from ROW to CL far lane	49	67	107	49
24	Upgrade Adjustment (Trucks)	0	0	0	0
25	≤2%=0;3-4%=2;5-6%=3;7+=5				
26	Distance observer - barrier	0	0	0	0
27	Auto attenuation (+)	0	0	0	0
28	Medium Truck atten (+)	0	0	0	0
29	Heavy Truck atten (+)	0	0	0	0
30	**MAKE NO CHANGES BELOW THIS LINE**				
31	**MODEL RESULTS**				
32	**SEGMENT**	**1**	**2**	**3**	**4**
33					
34	**Ldn @ REF. DISTANCE**	55.3	57.1	56.3	60.4
35	**DISTANCE TO Ldn CONTOURS (feet from edge of right of way)**				
36	55 dB	55	84	76	159
37	60 dB	7	18	1	55
38	65 dB	-16	-12	-34	7
39	70 dB	-26	-26	-50	-16
40	75 dB	-31	-33	-58	-26
41					
42	Source: FHWA RD-77-108; Caltrans Calveno Noise Curves				
43					

APPENDIX F
TRAFFIC IMPACT STUDY

KD Anderson & Associates, Inc.

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G ·Loomis, CA 95650
(916) 660-1555 · Cell: (916) 205-7032
E-mail: wshijo@kdanderson.com

MEMORANDUM

TO: Charlie Simpson, BaseCamp Environmental

FROM: Wayne Shijo, KD Anderson & Associates, Inc.

SUBJECT: Sanghera Apartments Project – Fair Share Portion of Mitigation

DATE: March 2, 2021 **PROJECT:** Sanghera Apartments (0780-16)

On March 12, 2020 KD Anderson & Associates (KDA) submitted a *Traffic Impact Study for the Sanghera Apartment Project – Livingston, CA* (TIS). The TIS presented a series of traffic-related mitigation measures and noted the applicant should pay a fair share of the cost of the mitigation measures. As you requested, KDA has prepared estimates of the fair share percentages. These estimates are presented in the enclosed table.

Methods

There are many ways to calculate fair share percentage. Two common ways are:

- **Percent of Total Intersection Volumes.** This is calculated as project-related volumes divided by total intersection volumes. To include both existing traffic and traffic due to other land use development projects, the enclosed table uses volumes from the Cumulative Plus Project scenario.

- **Percent of Future Increase in Volume**. This is calculated as project-related volumes divided by the growth in volume at an intersection. This approach excludes existing traffic from the calculation For the enclosed table, the growth in volume is calculated as Cumulative Plus Project volumes less Existing volumes

For completeness, the enclosed table presents fair share percentages values using both of the approaches listed above. Please let me know if you would like to discuss how these two approaches might be applied.

Data Source

To maintain internal consistency with the TIS and within the project environmental impact report (EIR), data used in the enclosed table are from the TIS. Please refer to the TIS for a description of the methods used to develop the data shown in the table.

Future Projects

Since the time the TIS was prepared, the City of Livingston has considered, and will continue to consider, additional land use development projects. These additional projects will generate traffic and will affect volumes used in calculating fair share.

As noted earlier in this memorandum, the enclosed table uses data presented in the TIS. Land use development projects approved or considered by the City since the time the TIS was prepared are not included. Additional future projects could result in additional traffic volumes, changes to the level of impacts, and different configurations of mitigation measures. These modifications would need to be addressed in analyses conducted for the future projects.

Please let me know if you have any questions about this memorandum or the enclosed table.

enclosure

KDA

Sanghera Apartment Project - Fair Share Portion of Mitigation Measure Cost

Study Intersections	Existing Volume	Cumulative Plus Project Volume	Project-Related Volume	Project-Related Percent of: Cumulative Plus Project Volume	Project-Related Percent of: Increase in Volume
1 Hammatt Avenue & State Route 99 Northbound Ramps	1,262	1,715	113	6.6%	24.9%
2 Hammatt Avenue & State Route 99 Southbound Ramps	1,236	1,654	163	9.9%	39.0%
3 Hammatt Avenue & F Street	935	1,240	164	13.2%	53.8%
4 Hammatt Avenue & Peach Avenue	399	1,156	205	17.7%	27.1%
5 Main Street & Peach Avenue	653	1,380	229	16.6%	31.5%

Notes: All volumes are intersection approach volumes for the p.m. peak hour.
Increase in volume = Cumulative Plus Project volume less Existing volume.

TRAFFIC IMPACT STUDY

FOR THE

SANGHERA APARTMENT PROJECT

Livingston, CA

Prepared For:

BaseCamp Environmental, Inc.
115 S. School Street, Suite 14
Lodi, CA 95240

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

March 12, 2020

0780-16

SANGHERA APARTMENT PROJECT
TRAFFIC IMPACT STUDY
Livingston, CA

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

INTRODUCTION 2
Project Description 2
Analysis Scenarios 2

EXISTING SETTING 7
Existing Street and Highway System 7
Study Intersections 8
Existing Traffic Volumes 8
Level of Service Calculation 10
Level of Service Thresholds 12
Current Levels of Service 12
Alternative Transportation Modes 13

REGULATORY SETTING 18
Caltrans 18
Merced County 18
City of Livingston 19
Merced County Association of Governments 20

PROJECT CHARACTERISTICS 21
Trip Generation 21
Trip Distribution 21
Trip Assignment 24

EXISTING PLUS PROJECT CONDITIONS 27
Level Of Service 27
Increase In Demand For Transit 31
Increase In Demand For Bicycle and Pedestrian Facilities 32

CUMULATIVE NO PROJECT CONDITIONS 33
Traffic Volume Forecasts 33
Levels of Service 35

CUMULATIVE PLUS PROJECT CONDITIONS 38
Traffic Volumes 38
Levels of Service 38

CITATIONS 44

TECHNICAL APPENDIX 46

TABLE OF CONTENTS

TABLES

1. Level of Service Definitions 11
2. Level of Service - Existing Conditions 14
3. Level of Service – Existing Conditions With Recommended Improvements 15
4. Sanghera Apartment Project Trip Generation Rates 22
5. Sanghera Apartment Project Trip Generation Estimate 22
6. Sanghera Apartment Project Trip Distribution Percentages 23
7. Level of Service - Existing Plus Project Conditions 29
8. Level of Service – Existing Plus Project Conditions With Mitigation Measures 30
9. Level of Service - Cumulative No Project Conditions 36
10. Level of Service - Cumulative No Project Conditions With Recommended Improvements 37
11. Level of Service - Cumulative Plus Project Conditions 40
12. Level of Service - Cumulative Plus Project Conditions With Mitigation Measures 41

TABLE OF CONTENTS

FIGURES

1. Vicinity Map 3
2. Site Plan 4
3. Study Area 5
4. Existing Traffic Volumes and Lane Configurations 9
5. Existing Background Project Only Volumes 25
6. Cumulative Background Project Only Volumes 26
7. Existing Plus Project Traffic Volumes and Lane Configurations 28
8. Cumulative No Project Traffic Volumes and Lane Configurations 34
9 Cumulative Plus Project Traffic Volumes and Lane Configurations 39

SANGHERA APARTMENT PROJECT
TRAFFIC IMPACT STUDY
Livingston, CA

EXECUTIVE SUMMARY

This *Executive Summary* is a brief overview of the analysis presented in this traffic impact study. It is not intended to be a comprehensive description of the analysis. For more details, the reader is referred to the full description presented in the traffic impact study.

This traffic impact study presents an analysis of the traffic-related effects of the Sanghera Apartment project. The project site is located in the south portion of the City of Livingston, east of Main Street, south of Peach Avenue. The proposed project includes 480 multiple family dwelling units.

This traffic impact study includes analysis of six study intersections under the following four development scenarios:

- Existing Conditions,
- Existing Plus Sanghera Apartment Project Conditions,
- Long-Term Future Cumulative No Sanghera Apartment Project Conditions, and
- Long-Term Future Cumulative Plus Sanghera Apartment Project Conditions.

Under Existing conditions, one intersection experiences operating conditions considered unacceptable. This traffic impact study presents a recommended improvement for this intersection.

Under Existing Plus Sanghera Apartment Project Conditions, three study intersections would experience operating conditions which are considered unacceptable. The project-related impacts at these intersections are considered significant. This traffic impact study presents mitigation measures that would reduce the impacts to less-than-significant levels.

Under Cumulative No Sanghera Apartment Project conditions, two study intersections would experience operating conditions considered unacceptable. This traffic impact study presents recommended improvements for these intersections.

Under Cumulative Plus Sanghera Apartment Project conditions, five study intersections would experience operating conditions considered unacceptable. The project-related impacts at these intersections are considered significant. This traffic impact study present mitigation measures that would reduce the impacts to less-than-significant levels.

In addition to presenting analysis of traffic operating conditions, this traffic impact study also presents analysis of project-related impacts on demand for public transit services, and demand for bicycle and pedestrian facilities. These impacts are considered less than significant, and no mitigation measures are required.

INTRODUCTION

This traffic impact study summarizes **KD Anderson & Associates'** analysis of the potential short-term and long-term traffic impacts associated with the **Sanghera Apartment** project in the City of Livingston, Merced County, California.

PROJECT DESCRIPTION

The Sanghera Apartment project is in the City of Livingston. **Figure 1** shows the regional location of the project site. The proposed project would include 480 multiple family dwelling units. **Figure 2** shows a site plan for the project.

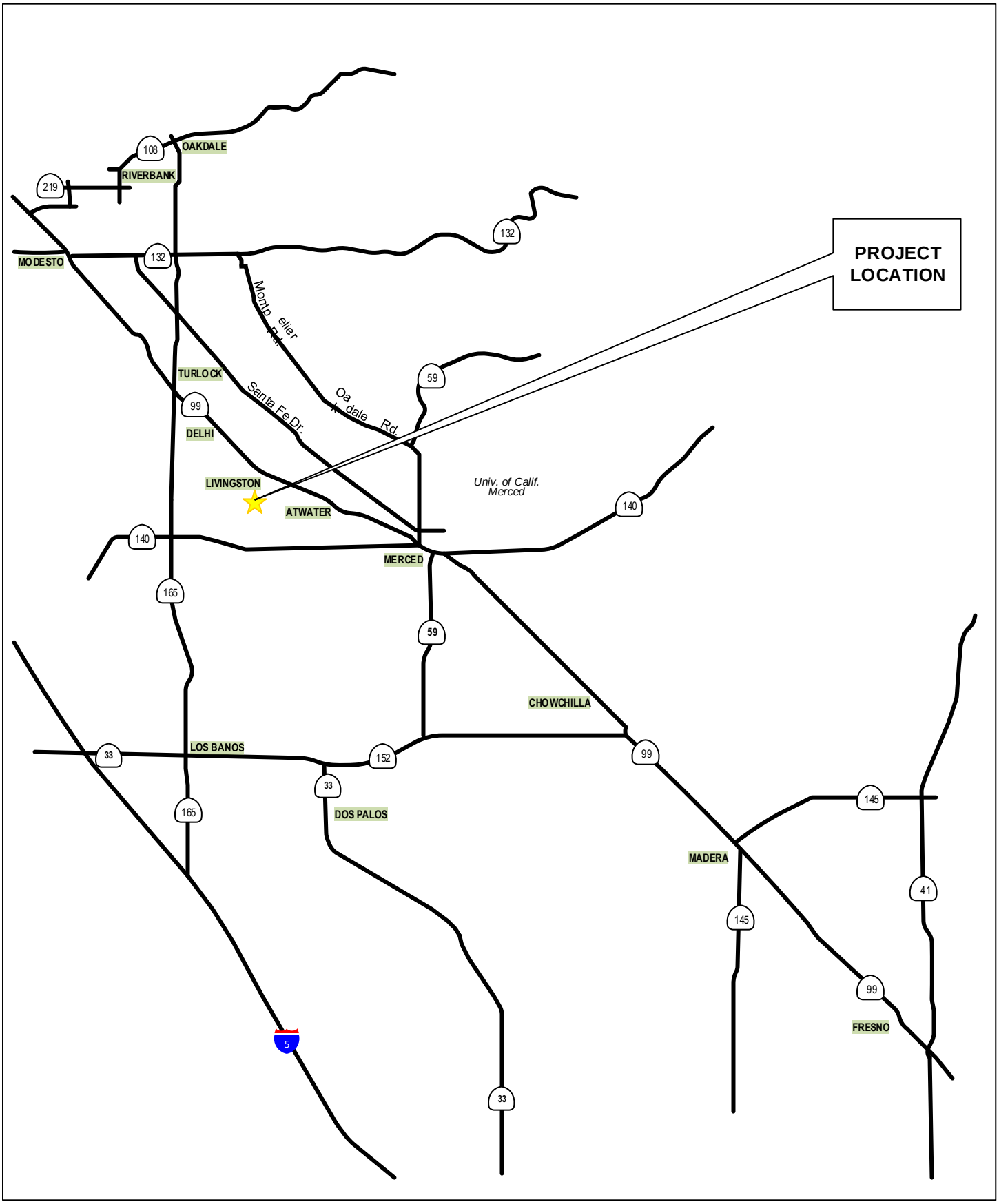
The project site is on the east side of Main Street, approximately 650 feet south of Peach Avenue. **Figure 3** shows the location of the project site within the traffic study area. As shown in **Figure 2**, access to the project site would be provided by a driveway connection to Main Street. Two other access points off Main Street would be available for emergency vehicle use only – one north of the main entrance and one south.

The project proposes to improve the segments of Main Street along the project site frontage. Near the main entrance, Main Street would be widened from 55 feet to 110 feet with improvements. The widened Main Street segment would include eight-foot-wide bike lanes on each side, and 15-foot-wide areas with sidewalks and landscaping on each side. Curb and gutter would be installed on both sides of the improved segment. Near the northern emergency vehicle driveway, Main Street would be widened from 30 feet to 85 feet with improvements. This segment would include one eight-foot-wide bike lane on the east side, and one 15-foot-wide area with sidewalk and landscaping on the east side. Curb and gutter would be installed on the east side of this segment only. (Farmer pers. comm.)

ANALYSIS SCENARIOS

The analysis contained in this study follows the approach applied by the City of Livingston in recent traffic study document. Existing conditions in the study area have been described in terms of current traffic conditions occurring during a.m. and p.m. peak hours. The analysis also considers the impacts of the proposed project with a background of long-term future cumulative traffic conditions. The development scenarios analyzed for this study are:

- Existing Conditions,
- Existing Conditions Plus the Sanghera Apartment Project,
- Cumulative Conditions without the Sanghera Apartment Project, and
- Cumulative Conditions Plus the Sanghera Apartment Project.

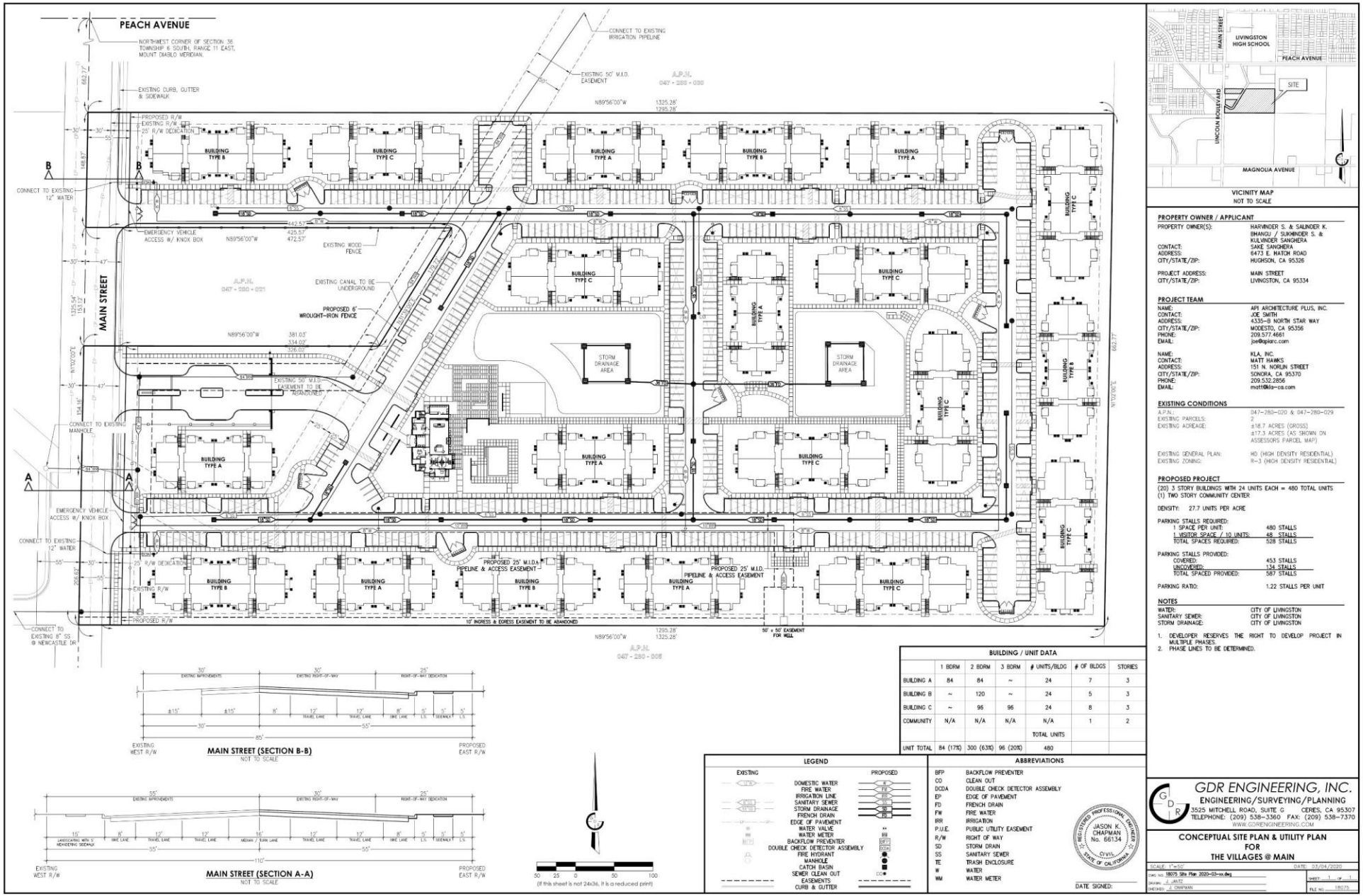


KD Anderson & Associates, Inc.
Transportation Engineers

VICINITY MAP

0780-16 RA 3/10/2020

figure 1



BUILDING / UNIT DATA

	1 BDRM	2 BDRM	3 BDRM	# UNITS/BLDG	# OF BLDGS	STORIES
BUILDING A	84	84	~	24	7	3
BUILDING B	~	120	~	24	5	3
BUILDING C	~	96	96	24	8	3
COMMUNITY	N/A	N/A	N/A	N/A	1	2
				TOTAL UNITS		
UNIT TOTAL	84 (17%)	300 (63%)	96 (20%)	480		

LEGEND

EXISTING / PROPOSED

- DOMESTIC WATER
- FIRE WATER
- IRRIGATION LINE
- SANITARY SEWER
- STORM DRAINAGE
- FRENCH DRAIN
- EDGE OF PAVEMENT
- WATER VALVE
- WATER METER
- BACKFLOW PREVENTER
- DOUBLE CHECK DETECTOR ASSEMBLY
- FIRE HYDRANT
- MANHOLE
- CATCH BASIN
- SEWER CLEAN OUT
- EASEMENTS
- CURB & GUTTER

ABBREVIATIONS

BFP	BACKFLOW PREVENTER
CO	CLEAN OUT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
EP	EDGE OF PAVEMENT
FD	FRENCH DRAIN
FW	FIRE WATER
IRR	IRRIGATION
P.U.E.	PUBLIC UTILITY EASEMENT
R/W	RIGHT OF WAY
SD	STORM DRAIN
SS	SANITARY SEWER
TE	TRASH ENCLOSURE
W	WATER
WM	WATER METER

JASON K. CHAPMAN No. 66134 CIVIL STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER

DATE SIGNED:

PROPERTY OWNER / APPLICANT

PROPERTY OWNER(S):	HARVINDER S. & SALINDER K. BHANGU / SUKHINDER S. & KULVINDER SANGHERA
CONTACT:	SAKE SANGHERA
ADDRESS:	6473 E. HATCH ROAD
CITY/STATE/ZIP:	HUGHSON, CA 95326
PROJECT ADDRESS:	MAIN STREET
CITY/STATE/ZIP:	LIVINGSTON, CA 95334

PROJECT TEAM

NAME:	API ARCHITECTURE PLUS, INC.
CONTACT:	JOE SMITH
ADDRESS:	4335-B NORTH STAR WAY
CITY/STATE/ZIP:	MODESTO, CA 95356
PHONE:	209.577.4661
EMAIL:	joe@apiarc.com
NAME:	KLA, INC.
CONTACT:	MATT HAWKS
ADDRESS:	151 N. NORLIN STREET
CITY/STATE/ZIP:	SONORA, CA 95370
PHONE:	209.532.2856
EMAIL:	matt@kla-ca.com

EXISTING CONDITIONS

A.P.N.:	047-280-020 & 047-280-029
EXISTING PARCELS:	2
EXISTING ACREAGE:	±18.7 ACRES (GROSS) ±17.3 ACRES (AS SHOWN ON ASSESSORS PARCEL MAP)
EXISTING GENERAL PLAN:	HD (HIGH DENSITY RESIDENTIAL)
EXISTING ZONING:	R-3 (HIGH DENSITY RESIDENTIAL)

PROPOSED PROJECT

(20) 3 STORY BUILDINGS WITH 24 UNITS EACH = 480 TOTAL UNITS
(1) TWO STORY COMMUNITY CENTER

DENSITY: 27.7 UNITS PER ACRE

PARKING STALLS REQUIRED:

1 SPACE PER UNIT:	480 STALLS
1 VISITOR SPACE / 10 UNITS:	48 STALLS
TOTAL SPACES REQUIRED:	528 STALLS

PARKING STALLS PROVIDED:

COVERED:	453 STALLS
UNCOVERED:	134 STALLS
TOTAL SPACED PROVIDED:	587 STALLS

PARKING RATIO: 1.22 STALLS PER UNIT

NOTES

WATER:	CITY OF LIVINGSTON
SANITARY SEWER:	CITY OF LIVINGSTON
STORM DRAINAGE:	CITY OF LIVINGSTON

1. DEVELOPER RESERVES THE RIGHT TO DEVELOP PROJECT IN MULTIPLE PHASES.
2. PHASE LINES TO BE DETERMINED.

GDR ENGINEERING, INC.
ENGINEERING/SURVEYING/PLANNING
3525 MITCHELL ROAD, SUITE G CERES, CA 95307
TELEPHONE: (209) 538-3360 FAX: (209) 538-7370
WWW.GDRENGINEERING.COM

CONCEPTUAL SITE PLAN & UTILITY PLAN FOR THE VILLAGES @ MAIN

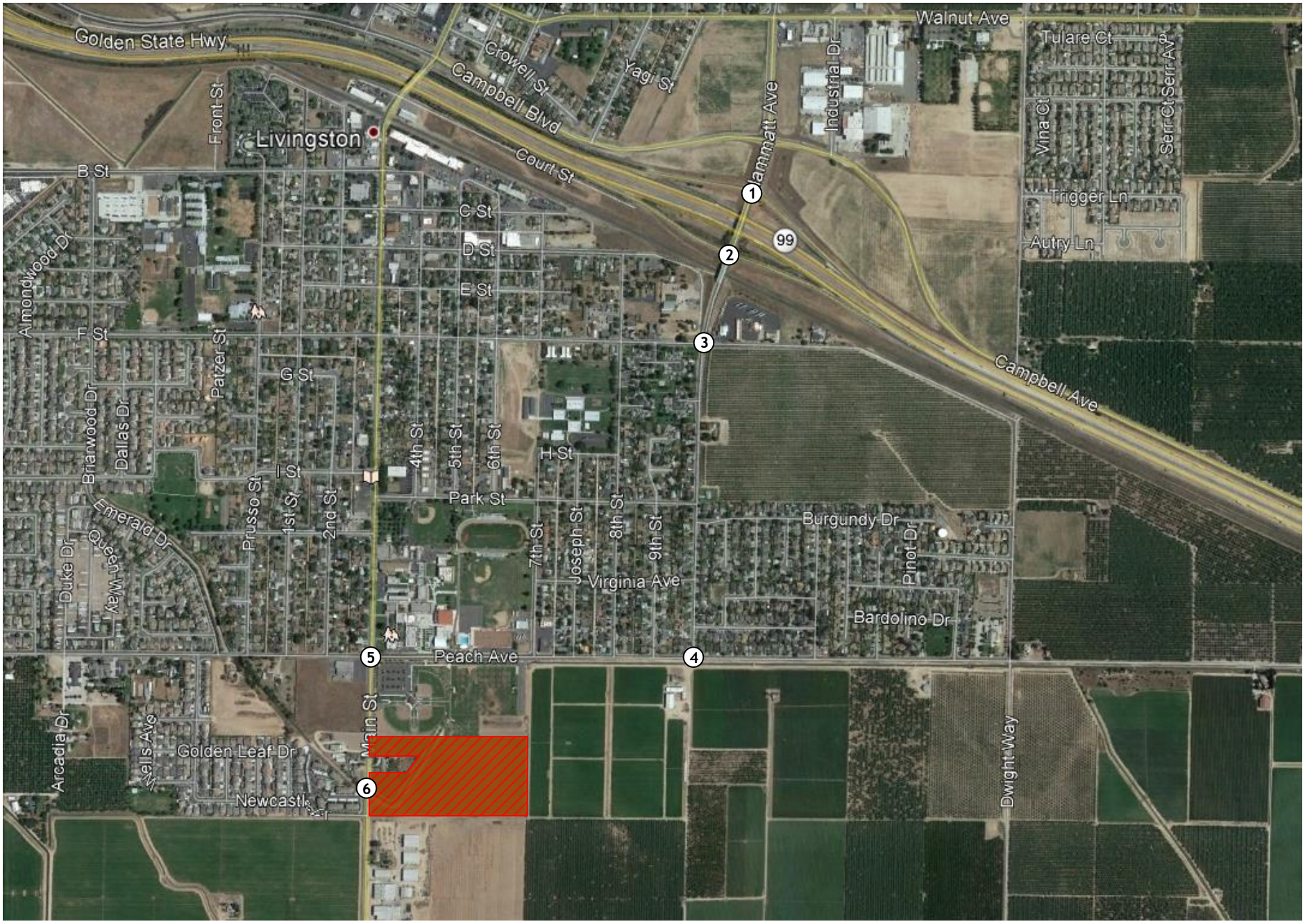
SCALE: 1"=50' DATE: 03/04/2020
DWG. NO. 18075 Site Plan 2020-03-xx.dwg SHEET 1 OF 1
DRAWN: J. JANTZ
CHECKED: J. CHAPMAN
FILE NO.: 18075

SITE PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 2



STUDY AREA

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 3

Comparison of these four scenarios allows identification of project-related impacts with both near-term and long-term background conditions. Near-term impacts are identified by assessing the effects of the project with existing background traffic volume conditions. Long-term impacts are identified by assessing the effects of the project with long-term future cumulative background traffic volume conditions.

As needed, this study also presents analysis of scenarios including recommended roadway improvements and mitigation measures.

EXISTING SETTING

This section of the study describes the transportation facilities available in the study area, current traffic volume levels, and accompanying traffic operations at the study intersections.

EXISTING STREET AND HIGHWAY SYSTEM

Various state highways, City of Livingston streets and Merced County roads would be used to access the project site. The project site is served by roads that connect the site with State Route (SR) 99, with the City of Livingston, and with adjoining rural communities in Merced County.

The text that follows provides a general overview of the study area street and highway system, which is also shown in **Figure 3**.

State Route 99 is the primary north-south transportation corridor through Merced County. In the vicinity of the project site, it has a west-northwest to east-southeast alignment. SR 99 is a controlled access freeway with a six-lane width southeast of Hammatt Avenue and a four-lane width northwest of Hammatt Avenue. For the Sanghera Apartment project, access to SR 99 is primarily provided via the Hammatt Avenue interchange, which is approximately one mile northeast of the project site. The most recent traffic count data available from Caltrans (2017) indicate that SR 99 carries an average annual daily traffic (AADT) volume of 60,000 to 62,000 vehicles per day and peak hour volume of 5,500 to 5,800 in the vicinity of the project site (California Department of Transportation 2020).

Hammatt Avenue is designated an arterial street in the *Circulation Element* of the *General Plan – Livingston, California* (Livingston 1999). The Hammatt Avenue interchange is one of two interchanges providing the Livingston area with access to SR 99. Within the study area, Hammatt Avenue is a north-south roadway with a two-lane width. The northern terminus of Hammatt Avenue is at Olive Avenue at the northern City limits. The southern terminus is at Peach Avenue. South of F Street, adjacent land uses along Hammatt Avenue are primarily residential and agricultural. North of F Street in the vicinity of the interchange with SR 99, adjacent land uses include existing, approved and proposed non-residential uses. Count data collected for this traffic impact study show traffic volume on Hammatt Avenue south of SR 99 is 9,222 vehicles per day. Daily roadway segment traffic volume count data sheets are presented in the technical appendix.

Peach Avenue is designated an arterial street in the *Circulation Element* of the *General Plan – Livingston, California*. Within the study area, Peach Avenue is an east-west roadway with a two-lane width. Some portions of Peach Avenue have a center-two-way left-turn lane (CTWLTL). The western terminus of Peach Avenue is at Howard Road, approximately two miles west of the City. The eastern terminus is at Sultana Drive, approximately 1.2 miles east of the City. In the study area, adjacent land uses are primarily residential and agricultural. Livingston High School is northeast of the intersection of Main Street & Peach Avenue. Livingston Sports Complex is

southeast of the intersection of Main Street & Peach Avenue. Count data collected for this traffic impact study show traffic volume on Peach Avenue between Main Street and Hammatt Avenue is 4,023 vehicles per day.

Main Street is designated an arterial street in the *Circulation Element* of the *General Plan – Livingston, California*. It is also referred to as Lincoln Boulevard. Within the study area, Main Street is a north-south roadway with a two-lane width. North of Olive Avenue, it becomes Livingston-Cressey Road. The southern terminus is south of SR 140, approximately five miles south of the City. Main Street has a grade-separate overcrossing of SR 99, but does not have direct access to SR 99. North of the project site, the majority of land uses adjacent to Main Street are residential and public uses (i.e., Livingston High School and the Livingston Sports Complex). In the vicinity of SR 99, adjacent land uses include non-residential commercial uses. South of the project site, adjacent land uses are predominantly agricultural and industrial, with scattered residential uses. Count data collected for this traffic impact study show traffic volume on Main Street south of Peach Avenue is 3,088 vehicles per day.

STUDY INTERSECTIONS

The quality of flow of traffic is often governed by the operation of intersections, and the operation of the following five existing intersections was analyzed for this study:

1. Hammatt Avenue & SR 99 Northbound Ramps
2. Hammatt Avenue & SR 99 Southbound Ramps
3. Hammatt Avenue & F Street
4. Hammatt Avenue & Peach Avenue
5. Main Street & Peach Avenue

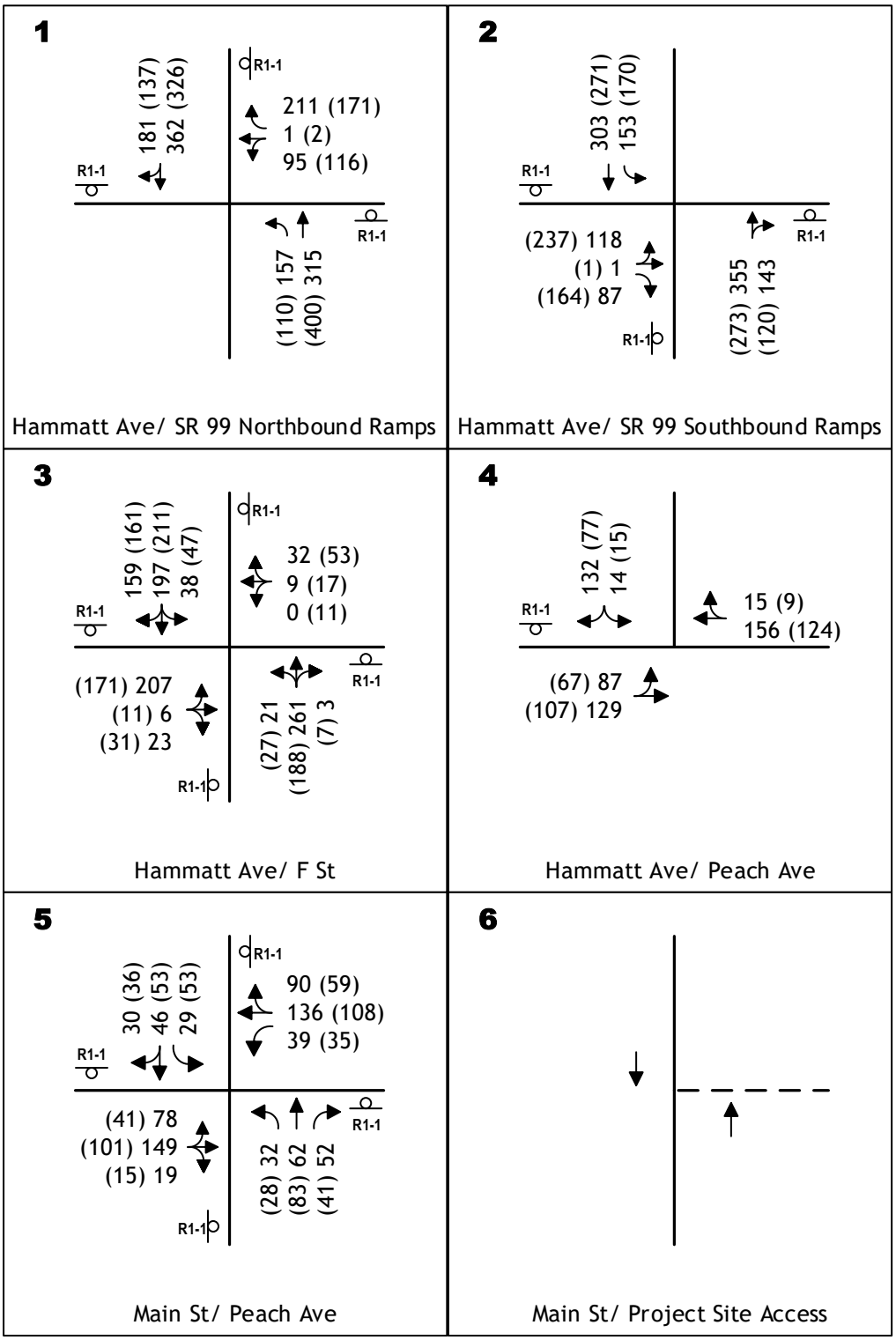
With implementation of the Sanghera Apartment project, a project site access driveway intersection would be created along Main Street:

6. Main Street & Project Site Access

The locations of the study intersections are presented in **Figure 3**. The intersection numbers listed above correspond to the intersection numbering shown in **Figure 3**.

EXISTING TRAFFIC VOLUMES

To quantify existing traffic conditions, a.m. and p.m. peak hour traffic count data were collected at the existing study area intersections. Data were collected at the five study intersections on Tuesday November 5, 2019. The data were collected during the 7:00 a.m. to 9:00 a.m. period, and the 4:00 p.m. to 6:00 p.m. period. Traffic volumes for the highest one-hour periods within the two-hour a.m. and two-hour p.m. data collection periods are used in this study. Peak hour intersection traffic volume count data sheets are presented in the technical appendix and are summarized in **Figure 4**.



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- ----- — Future Roadway

NORTH

N.T.S.

EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 4

LEVEL OF SERVICE CALCULATION

To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without project-generated traffic, level of service (LOS) were determined at study intersections.

LOS is a quantitative measure of traffic operating conditions using a letter grade A through F. LOS A through F represents progressively worsening traffic conditions. The characteristics associated with the various LOS for intersections are presented in **Table 1**. The City of Livingston designates LOS C as their minimum standard, while the *Circulation Element* of the *2030 Merced County General Plan* (County of Merced 2013) establishes LOS C as the minimum acceptable condition in rural portions of the County and LOS D as the urban standard.

LOS were calculated for study intersections using the applicable methodology contained in the *Highway Capacity Manual 6th Edition* (Transportation Research Board 2016). The text that follows summarizes this methodology.

Signalized Intersections

The methodology employed for determining LOS at signalized intersections makes use of data describing traffic volume, intersection geometry and traffic signal timing to calculate the overall average delay per vehicle passing through the intersection. This average delay is compared to the prescribed thresholds to identify the applicable LOS. Study intersections were evaluated using SYNCHRO software (Trafficware 2020) for this traffic impact study.

Unsignalized Intersections

The procedure for calculating the LOS at unsignalized intersections is based on the relative availability of gaps in traffic and the delay experienced for each movement that must yield the right-of-way. The number of gaps is a function of the volume and speed of conflicting traffic, type of control (stop or yield), and intersection geometrics. While the length of average delays and LOS can be calculated for each movement, an overall "weighted" LOS can be calculated. Study intersections were evaluated using SYNCHRO software (Trafficware 2020) for this traffic impact study.

LOS at unsignalized intersections controlled by side street stops is indicative of the magnitude of the delay incurred by motorists turning at the intersection. However, because these calculations exclude the condition of through traffic flow (which is assumed to flow freely), unsignalized poor LOS may not be judged to be significant unless the volume of traffic also satisfies warrants for traffic signals.

Table 1. Level of Service Definitions

Level of Service	Signalized Intersections	Unsignalized Intersections and Roundabouts
A	Vehicle progression is exceptionally favorable or the cycle length is very short. Delay ≤ 10.0 seconds/vehicle	Little or no delay. Delay ≤ 10 seconds/vehicle
B	Vehicle progression is highly favorable or the cycle length is short. Delay > 10 seconds/vehicle and ≤ 20 seconds/vehicle	Short traffic delays. Delay > 10 seconds/vehicle and ≤ 15 seconds/vehicle
C	Vehicle progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. Delay > 20 seconds/vehicle and ≤ 35 seconds/vehicle	Average traffic delays. Delay > 15 seconds/vehicle and ≤ 25 seconds/vehicle
D	Vehicle progression is ineffective or the cycle length is long. Many vehicles stop and the individual cycle failures are noticeable. Delay > 35 seconds/vehicle and ≤ 55 seconds/vehicle	Long traffic delays. Delay > 25 seconds/vehicle and ≤ 35 seconds/vehicle
E	Vehicle progression is unfavorable and the cycle length is long. Individual cycle failures are frequent. Delay > 55 seconds/vehicle and ≤ 80 seconds/vehicle	Very long traffic delays, failure, extreme congestion. Delay > 35 seconds/vehicle and ≤ 50 seconds/vehicle
F	Vehicle progression is very poor and the cycle length is long. Most cycles fail to clear the vehicle queue. Delay > 80 seconds/vehicle	Intersection blocked by external causes. Delay > 50 seconds/vehicle

Source: Transportation Research Board 2010.

While the unsignalized LOS may indicate very long delays (e.g., LOS E or F) traffic conditions are generally not assumed to be significant unless a significant number of motorists are delayed. For this analysis, the satisfaction of traffic signal warrants has been used to suggest the significance of unsignalized LOS. Although satisfying signal warrants signifies that an intersection has unacceptable operating conditions, it does not mean that installation of a signal is the only way to mitigate those conditions. It is often possible to improve an intersection with additional lanes or improved geometrics so that signalization is not necessary. The peak hour signal warrant criteria employed for this study are those presented in the *California Manual on Uniform Traffic Control Devices* (California Department of Transportation 2014).

LEVEL OF SERVICE THRESHOLDS

In this study, project-related impacts and the need for improvements are based on minimum LOS established by agencies responsible for maintaining roadways. The City of Livingston *Circulation Element* of the *General Plan – Livingston, California* (Livingston 1999) designates LOS C as their minimum standard.

The Merced County General Plan Circulation Element establishes LOS C as the minimum acceptable condition in rural portions of the County and LOS D as the urban standard.

The Caltrans document *Transportation Concept Report – State Route 99 - District 10* (California Department of Transportation 2017) (TCR) identifies LOS D as the concept LOS in rural portions of SR 99 and LOS D as the concept LOS in urban portions. The TCR identifies the portion of SR 99 southeast of Hammatt Avenue as rural, and the portion between Hammatt Avenue and the Winton Parkway as urban.

More detail on the minimum LOS established by agencies is presented below in the *Regulatory Setting* section of this traffic impact study.

CURRENT LEVELS OF SERVICE

Intersection Levels of Service

Peak hour LOS were calculated at the five existing study intersections under Existing Conditions. Intersection LOS calculation worksheets for this and all other scenarios are presented in the technical appendix. The results of these calculations are presented on **Table 2**. As shown, four of the five existing study intersections operate at acceptable LOS C or better during both the a.m. and p.m. peak hours. No improvements are recommended at these four intersections.

The following describes the one intersection that operates at an unacceptable LOS under Existing conditions.

Hammatt Avenue & State Route 99 Northbound Ramps. The intersection of Hammatt Avenue & SR 99 Northbound Ramps operates at LOS E with 36.5 seconds of delay during the a.m. peak hour and LOS D with 26.1 seconds of delay during the p.m. peak hour. LOS E and D are considered unacceptable. To improve LOS to an acceptable level, the following improvement is recommended:

Recommended Improvement. At the intersection of Hammatt Avenue & SR 99 Northbound Ramps, split the single lane southbound combined through/right-turn lane into an exclusive through lane and an exclusive southbound-to-westbound right-turn lane. As shown in **Table 3**, with implementation of this recommended improvement this intersection would operate at LOS C with 17.1 seconds of delay during the a.m. peak hour and LOS C with 18.5 seconds of delay during the p.m. peak hour. LOS C is considered acceptable.

As shown in **Table 2**, the intersection of Hammatt Avenue & SR 99 Northbound Ramps does not meet the peak hour signal warrant under Existing Conditions. As a result, installing signalized control at this intersection is not recommended under Existing Conditions.

ALTERNATIVE TRANSPORTATION MODES

The following is a description of facilities available for alternative modes of travel in the study area.

Transit

There are a variety of transit options available in Merced County. The level of transit service available to Merced County residents has increased since transit was introduced to the area in 1974. Historically, public transit has developed in response to the basic transportation needs of Merced's transit-dependent population and has maintained that standard of service.

Bus Service. The Bus, Merced's Regional Transit System, was formed from the consolidation of four former local public transit service providers in July 1996. Today "The Bus" is the single public transportation service provider for all of Merced County.

The Bus is administered and governed by the Transit Joint Powers Authority for Merced County. The authority is made up of an 11 member board of elected officials: one each from the cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced, along with five members of the Board of Supervisors of the County of Merced, California.

Currently, buses are operating on 16 fixed routes with another set of buses providing Paratransit service. The Bus carries approximately 1,000,000 passengers per year. (http://www.mercedthebus.com/)

Table 2. Level of Service - Existing Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak		PM Peak	
				LOS	Delay	LOS	Delay
1	Hammatt Avenue & State Route 99 Northbound Ramps	AWSC	No	E	36.5	D	26.1
2	Hammatt Avenue & State Route 99 Southbound Ramps	AWSC	No	C	23.3	C	19.8
3	Hammatt Avenue & F Street	AWSC	No	B	14.4	B	14.2
4	Hammatt Avenue & Peach Avenue	Unsig	No	B	10.6	A	9.9
5	Main Street & Peach Avenue	AWSC	No	B	12.3	B	10.5
6	Main Street & Project Site Access	- -		- -	- -	- -	- -

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.
Dashes ("- -") indicate the intersection would not be present under this scenario.

Table 3. Level of Service - Existing Conditions With Recommended Improvements

Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1 Hammatt Avenue & State Route 99 Northbound Ramps	AWSC	C	17.1	C	18.5

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.

The Bus provides two routes in the Livingston area:

- Route L, the Livingston Commuter, operates between Livingston and the City of Merced. In the vicinity of the project site, this route provides service to the intersection of Main Street & Park Street, approximately 0.4 mile north of the project site.

- Route T, the Turlock Commuter, operates between Turlock and the City of Merced. In the vicinity of the project site, this route provides service to the intersection of Main Street & B Street, approximately 0.9 mile north of the project site.

Dial-A-Ride. Dial-A-Ride service is primarily for use by senior citizens, the handicapped, or those without a regularly scheduled fixed route bus operating within one mile of their residence. Dial-A-Ride is available to the general public except in the cities of Merced and Los Banos.

In the cities of Merced and Los Banos, Dial-A-Ride service is reserved for the exclusive use by the elderly (age 60 and older) and the handicapped. All Dial-A-Ride users in these two cities must register for Dial-A-Ride service.

Dial-A-Ride is generally open for service from 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturday. However, service hours may vary from community to community depending on ridership demand.

To schedule Dial-A-Ride service or to register for service in Merced or Los Banos, residents are provided with telephone access.

Bicycle and Pedestrian Facilities. According to Caltrans guidelines, bicycle facilities are generally divided into four categories:

- Class I Bikeway (Bike Path). A completely separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- Class II Bikeway (Bike Lane). A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations.

- Class III Bikeway (Bike Route). A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway.

- Class IV Bikeway (Separated Bikeway). A bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

The City of Livingston has limited bicycle facilities. In the vicinity of the project site, Class II lanes are present on both sides of Peach Avenue between Main Street and 7th Street.

In the immediate vicinity of the project site, sidewalks have been constructed along the east side of Main Street between Peach Avenue and the northwest corner of the project site, and along a 175 feet portion of the west side of Main Street north of Newcastle Drive.

North of the project site, crosswalks are present across all four legs of the intersection of Main Street & Peach Avenue. Sidewalks are present on both sides of Main Street as far north as Swan Street, north of SR 99.

East of the project site, sidewalks are present on the north side of Peach Avenue to Dwight Way. On the south side of Peach Avenue, sidewalks are present between Main Street and 7th Street. East of 7th Street, land uses on the south side of Peach Avenue are predominantly agricultural, and sidewalks are not present.

West of the project site, sidewalks are present on the north side of Peach Avenue to Winton Parkway. On the south side of Peach Avenue, sidewalks are generally not present, with intermittent segments of sidewalk present along the frontage of some developed parcels.

As noted earlier in the *Existing Street and Highway System* section of this traffic impact study, land uses south of the project site are predominantly agricultural and industrial, with scattered residential uses. Sidewalks are not present along Main Street south of the project site.

REGULATORY SETTING

The following is a description of the existing regulatory setting conditions in the project study area. The study area includes streets and highways that are governed by various state and local jurisdictions. Each has adopted minimum LOS standards for their facilities.

CALTRANS

Caltrans is responsible for state highways, their ramps and for intersections where freeway ramps intersect the local street system. Caltrans generally strives to maintain LOS C on its facilities, but recognizes that circumstances may limit their ability to do so. The following two documents are relevant.

- The Caltrans document *Guide for the Preparation of Traffic Impact Studies* (California Department of Transportation 2002) identifies circumstances under which Caltrans determines that a traffic impact study would be required. The document also details information that is to be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies.

- The Caltrans document *Transportation Concept Report – State Route 99 - District 10* (California Department of Transportation 2017) (TCR) is a long-term planning document that each Caltrans district prepares for every state highway or portion thereof in its jurisdiction. This document usually represents the first step in Caltrans' long-range corridor planning process. The purpose of a TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period. These are indicated in the "route concept." In addition to the 20-year route concept level, the TCR includes an "ultimate concept," which is the ultimate goal for the route beyond the 20-year planning horizon. Ultimate concepts must be used cautiously, however, because unforeseen changes in land use and other variables make forecasting beyond 20 years difficult. TCRs do not necessarily consider the amount, type, and location of development within local agency General Plans. The SR 99 TCR identifies LOS C as the concept LOS in rural portions and LOS D as the concept LOS in urban portions. In the Livingston area, the portion of SR 99 southeast of Hammatt Avenue is considered rural, and the portion between the Winton Parkway and Hammatt Avenue is considered urban.

MERCED COUNTY

The *2030 Merced County General Plan* (County of Merced 2013) *Circulation Element* focuses on providing roadways for growing automobile demands and alternative modes of transportation. This requires improving those alternative modes through regional coordination, improved

funding, better land use and design, and fair pricing. The overarching goal of the element seeks a balanced transportation system that moves people and goods in a safe and efficient way that minimizes environmental impacts, supports urban land uses, and serves rural needs. The following are two policies of the *General Plan Circulation Element* related to LOS standards:

> "Policy CIR-1.5: County Level of Service Standards (RDR)
> Implement a Countywide roadway system that achieves the following level-of-service (LOS) standards during peak traffic periods:
>
> > "a) For roadways located within rural areas: LOS "C" or better.
> >
> > "b) For roadways located outside Urban Communities that serve as connectors between Urban Communities: LOS of "D" or better.
> >
> > "c) For roadways located within Urban Communities: LOS of "D" or better.
>
> "Policy CIR-1.6: Level of Service "E" Exception (RDR)
> Allow a level of service "E" or worse only on a minor component of the circulation system (such as a left turn movement from a local roadway) if the major component of the circulation system (such as a through movement on a collector or arterial roadway) would be significantly compromised in the process of improving the level of service of the minor component."

Merced County administers urban land uses within the unincorporated area of the county through Community Plans. Community Plans have been adopted for Delhi, Foxhills, Franklin-Beachwood, Hilmar, Santa Nella and Villages of Laguna San Luis, and updates to plans are underway in Planada, La Grand, and Winton. An update to the Franklin-Beachwood Community plan is anticipated but has not proceeded. LOS D is the minimum standard in community plan areas.

Merced County has not adopted a countywide program to fund improvement to county roadways. Instead, the county has adopted individual Bridge and Major Thoroughfare (B&MT) fee programs for Community Plans. B&MT fees have been adopted for Atwater RRC, Delhi, Hilmar, Planada, Santa Nella, Winton Community Plans and Franklin Beachwood SUDP.

CITY OF LIVINGSTON

The City of Livingston is responsible for streets within the city limits. The City of Livingston *Circulation Element* of the *General Plan – Livingston, California* (Livingston 1999) designates LOS C as their minimum standard:

> "The City designates Service Level 'C' as defined in the Highway Capacity Manual (published by the Transportation Research Board of the National

Research Council) as the minimum desirable service level at which arterial streets and collector streets should operate. All new facilities in these categories shall be designed to operate at this level or better for a period of at least 20 years following their construction."

MERCED COUNTY ASSOCIATION OF GOVERNMENTS

The Merced County Association of Governments (MCAG) administers the Regional Transportation Impact Fee (RTIF) program. Many local governments have or are considering development fee programs to mitigate traffic impacts within their jurisdiction. However, transportation impacts beyond their jurisdictions are not included. The Regional Transportation Impact Fee Program provides additional revenue to mitigate transportation impacts on the regional road network. (http://www.mcagov.org/150/Regional-Transportation-Impact-Fee)

PROJECT CHARACTERISTICS

The following is a description of characteristics of the Sanghera Apartment project used in the assessment of project-related impacts on traffic operations.

TRIP GENERATION

Development of the Sanghera Apartment project would generate new vehicle trips and potentially affect traffic operations at the study intersections. Analysis of traffic-related impacts associated with a land use development project requires an estimate of the number of vehicle trips generated by the project. The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using typical trip generation rates that have been developed based on the nature and size of project land uses.

Data compiled by the Institute of Transportation Engineers (ITE) and presented in the publication *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers 2017) is the source of trip generation rates.

The trip generation rates used in this traffic impact study are presented in **Table 4**. The trip generation rates are applied to the amount of project-related land uses. The resulting trip generation estimates are presented in **Table 5**.

As shown in **Table 4**, the Sanghera Apartment project would generate an estimated 221 trips during the a.m. peak hour and 269 trips during the p.m. peak hour.

TRIP DISTRIBUTION

Trips that would be generated by the Sanghera Apartment project were geographically distributed over the roadway network. The geographic trip distribution pattern for project-related trips is shown in **Table 6**. The geographical distribution of trips is based on the relative attractiveness or utility of possible destinations.

The Merced County Association of Governments (MCAG) travel demand model was used to estimate trip distribution percentages. A "select link" analysis was applied using the model to develop trip distribution percentages. The travel demand model is considered to be a valid source for the trip distribution percentages because it directly addresses:

- the location of destinations of project-related trips,
- the magnitude of land uses that would attract project-related trips, and
- the quality of access to the destinations via the roadway network.

Table 4. Sanghera Apartment Project Trip Generation Rates

Land Use and ITE Land Use Code	Units	Trips per Unit					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) (ITE Code 220)	Dwelling Units	0.11	0.35	0.46	0.35	0.21	0.56

Source: Institute of Transportation Engineers 2017
Note: Trip generation rates are based on average rates.

Table 5. Sanghera Apartment Project Trip Generation Estimate

Land Use and ITE Land Use Code	Quantity	Trips Generated					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) (ITE Code 220)	480 Dwelling Units	53	168	221	168	101	269

Source: Institute of Transportation Engineers 2017
Total may not equal the sum of components due to rounding.

Table 6. Sanghera Apartment Project Trip Distribution Percentages

Direction of Travel	Existing Background	Cumulative Background
Hammatt Avenue North of State Route 99	19	19
North on State Route 99 via Hammatt Avenue Interchange	10	12
South on State Route 99 via Hammatt Avenue Interchange	44	30
Land Uses Along Hammatt Avenue South of State Route 99	1	1
East on Peach Avenue	7	14
North on Main Street	14	9
South on Main Street	5	15
TOTAL	100	100

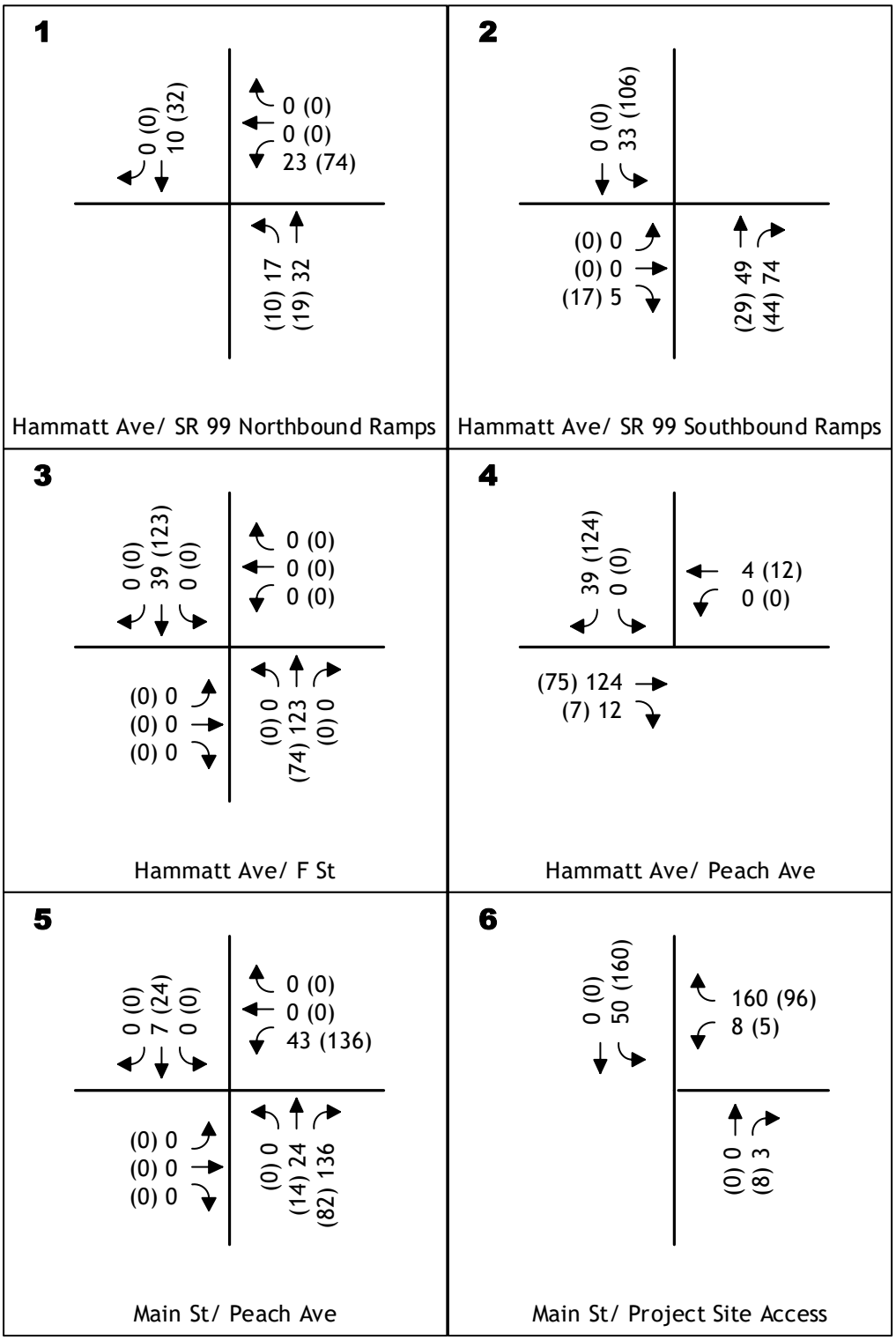
Source: MCAG Travel Demand Model select link analysis.

Planned future growth throughout the region is expected to have an effect on the geographic distribution of travel. As a result, two sets of trip distribution percentages are shown in **Table 6** and applied in this traffic impact study. One set of percentages was applied to the near-term Existing Plus Project scenario, and a second set of percentages was applied to the long-term Cumulative Plus Project scenario.

Graphical plots showing raw, pre-adjustment, results from the MCAG traffic model used in the development of trip distribution percentages are presented in the technical appendix.

TRIP ASSIGNMENT

Project-related trips that would be generated by the project, shown in **Table 5**, were distributed over the roadway network using the trip distribution percentages shown in **Table 6**. Logical travel routes were used to assign trips to individual roadways. The resulting project-only trips at study intersections for near-term existing background conditions are shown in **Figure 5**. Project-only trips for long-term cumulative background condition are shown in **Figure 6**.



Legend

XX AM Peak Hour Volume

(XX) PM Peak Hour Volume

NORTH

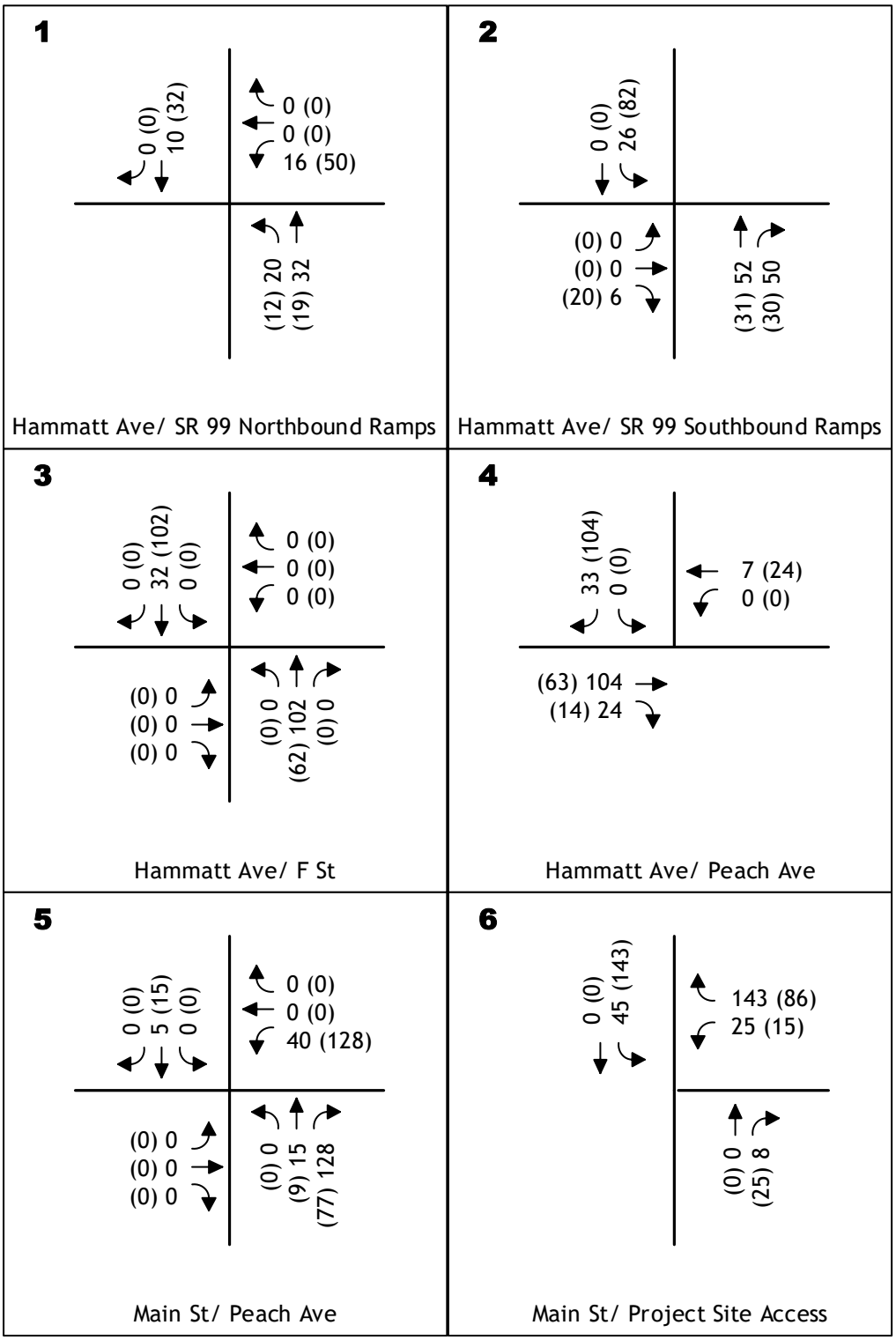
N.T.S.

EXISTING BACKGROUND PROJECT ONLY VOLUMES

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 5



Legend

XX AM Peak Hour Volume

(XX) PM Peak Hour Volume

NORTH

N.T.S.

CUMULATIVE BACKGROUND PROJECT ONLY VOLUMES

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 6

EXISTING PLUS PROJECT CONDITIONS

This section of this traffic impact study describes the impacts of the Sanghera Apartment project with near-term existing background conditions.

LEVEL OF SERVICE

The following describes the impacts of the proposed project on study intersections.

Intersection Traffic Volumes

Traffic volumes at study intersections under Existing Plus Project conditions were calculated by adding project-related trips to existing background conditions traffic volumes. Project-related trips shown in **Figure 5** were added to existing traffic volumes shown in **Figure 4**. The resulting Existing Plus Project traffic volumes are shown in **Figure 7**.

Intersection Levels of Service

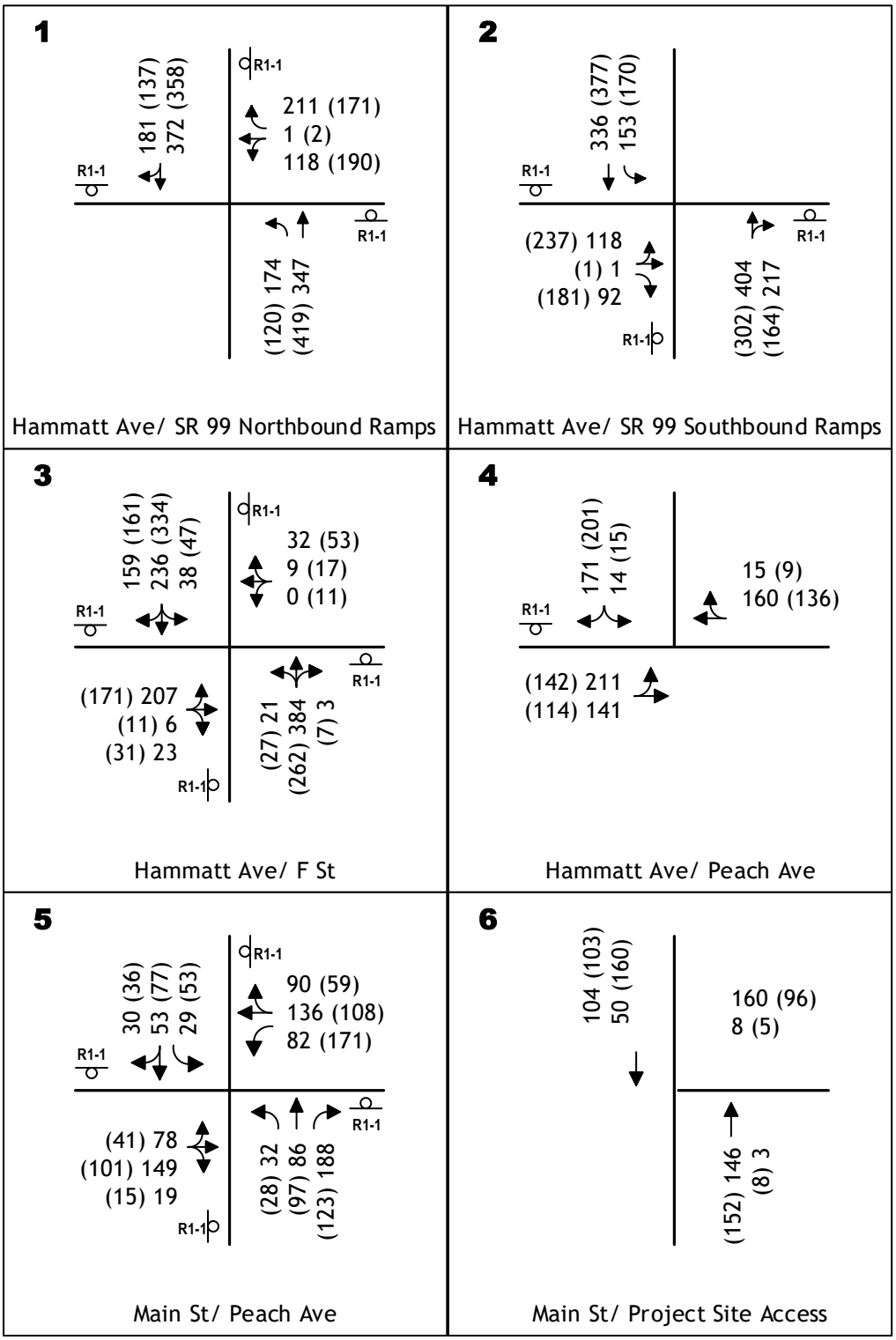
Peak hour LOS was calculated at the six study intersections under Existing Plus Project conditions. Intersection LOS calculation worksheets for this and all other scenarios are presented in the technical appendix. The results of these calculations are presented on **Table 7**. As shown, three of the six study intersections would operate at acceptable LOS C or better during both the a.m. and p.m. peak hours. The impact of the proposed project on these three intersections is considered less-than-significant and no mitigation measures are required.

The following describes the three intersections that would operate at an unacceptable LOS under Existing Plus Project conditions.

Hammatt Avenue & State Route 99 Northbound Ramps. Under Existing Plus Project conditions, the intersection of Hammatt Avenue & SR 99 Northbound Ramps would operate at LOS E with 42.3 seconds of delay during the a.m. peak hour and LOS E with 38.1 seconds of delay during the p.m. peak hour. Because LOS E is considered unacceptable and the amount of vehicle delay under Existing Plus Project conditions would be greater than under Existing Conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & SR 99 Northbound Ramps. As shown in **Table 7**, this intersection would meet peak hour signal warrants under Existing Plus Project conditions. As shown in **Table 8**, with implementation of this mitigation measure this intersection would operate at LOS A with 8.2 seconds of delay during the a.m. peak hour and LOS A with 7.1 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

The project applicant will pay a fair share of the cost of this mitigation measure.



Legend

XX AM Peak Hour Volume

(XX) PM Peak Hour Volume

R1-1 Stop Sign

NORTH

N.T.S.

EXISTING PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 7

Table 7. Level of Service - Existing Plus Project Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak		PM Peak	
				LOS	Delay	LOS	Delay
1	Hammatt Avenue & State Route 99 Northbound Ramps	AWSC	Yes	E	42.3	E	38.1
2	Hammatt Avenue & State Route 99 Southbound Ramps	AWSC	Yes	F	50.7	D	32.3
3	Hammatt Avenue & F Street	AWSC	No	C	19.7	D	26.7
4	Hammatt Avenue & Peach Avenue	Unsig	No	B	11.5	B	11.1
5	Main Street & Peach Avenue	AWSC	No	B	14.3	B	12.4
6	Main Street & Project Site Access	Unsig	No	B	10.3	A	10.0

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.

Table 8. Level of Service - Existing Plus Project Conditions With Mitigation Measures

Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1 Hammatt Avenue & State Route 99 Northbound Ramps	Signal	A	8.2	A	7.1
2 Hammatt Avenue & State Route 99 Southbound Ramps	Signal	A	6.6	A	7.9
3 Hammatt Avenue & F Street	AWSC	C	16.6	C	16.5

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized control. "AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.

Hammatt Avenue & State Route 99 Southbound Ramps. Under Existing Plus Project conditions, the intersection of Hammatt Avenue & SR 99 Southbound Ramps would operate at LOS F with 50.7 seconds of delay during the a.m. peak hour and LOS D with 32.3 seconds of delay during the p.m. peak hour. Because LOS F and D are considered unacceptable and the amount of vehicle delay under Existing Plus Project conditions would be greater than under Existing Conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & SR 99 Southbound Ramps. As shown in **Table 7**, this intersection would meet peak hour signal warrants under Existing Plus Project conditions. As shown in **Table 8**, with implementation of this mitigation measure this intersection would operate at LOS A with 6.6 seconds of delay during the a.m. peak hour and LOS A with 7.9 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

The project applicant will pay a fair share of cost of this mitigation measure.

Hammatt Avenue & F Street. Under Existing Plus Project conditions, the intersection of Hammatt Avenue & F Street would operate at LOS C with 19.7 seconds of delay during the a.m. peak hour and LOS D with 26.7 seconds of delay during the p.m. peak hour. Because LOS D is considered unacceptable and the amount of vehicle delay under Existing Plus Project conditions would be greater than under Existing Conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. At the intersection of Hammatt Avenue & F Street, split the single lane southbound approach into a combined through/left-turn lane and an exclusive southbound-to-westbound right-turn lane. As shown in **Table 8**, with implementation of this mitigation measure this intersection would operate at LOS C with 16.6 seconds of delay during the a.m. peak hour and LOS C with 16.5 seconds of delay during the p.m. peak hour. LOS C is considered acceptable.

As shown in **Table 7**, the intersection of Hammatt Avenue & F Street would not meet the peak hour signal warrant under Existing Plus Project Conditions. As a result, installing signalized control at this intersection is not recommended under Existing Plus Project Conditions.

The project applicant will pay a fair share of the cost of this mitigation measure.

INCREASE IN DEMAND FOR TRANSIT

Implementation of the Sanghera Apartment project would result in an increase in demand for public transit service. Currently, there is limited public transit service in the vicinity of the project site, with Merced Regional Transit System The Bus Route L providing service approximately 0.4 mile north of the project site, and Route T providing service approximately 0.9 mile north of the project site.

While development of project-related urban uses would result in an increase in demand, the frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that The Bus routes can accommodate the additional passengers the project would generate. This is considered a less-than-significant impact. No mitigation measures are required.

INCREASE IN DEMAND FOR BICYCLE AND PEDESTRIAN FACILITIES

Implementation of the Sanghera Apartment project would result in an increase in demand for bicycle and pedestrian facilities. As noted in the *Project Description* section of this traffic impact study, the proposed project includes construction of sidewalks on the east side of Main Street along the length of the project site frontage.

As noted in the *Bicycle and Pedestrian Facilities* section of this traffic impact study:

- sidewalks are present along the east side of Main Street between Peach Avenue and the northwest corner of the project site,
- crosswalks are present across all four legs of the intersection of Main Street & Peach Avenue,
- sidewalks are present on both sides of Main Street as far north as Swan Street, and
- sidewalks are present on the north side of Peach Avenue east and west of Main Street.

The combination of project-related improvements and existing sidewalks would provide continuous sidewalk access from the project site to the north, west and east of the project site. Therefore, the increase in demand for facilities is considered a less-than-significant impact. No mitigation measures are required.

CUMULATIVE NO PROJECT CONDITIONS

This section of this traffic impact study describes traffic operating conditions under long-term future cumulative conditions without the Sanghera Apartment project. This scenario provides a description of background long-term future conditions and, in comparison with the Cumulative Plus Project condition, allows identification of project-related impacts under cumulative conditions.

TRAFFIC VOLUME FORECASTS

Section 15355(a) of the *State CEQA Guidelines* states,

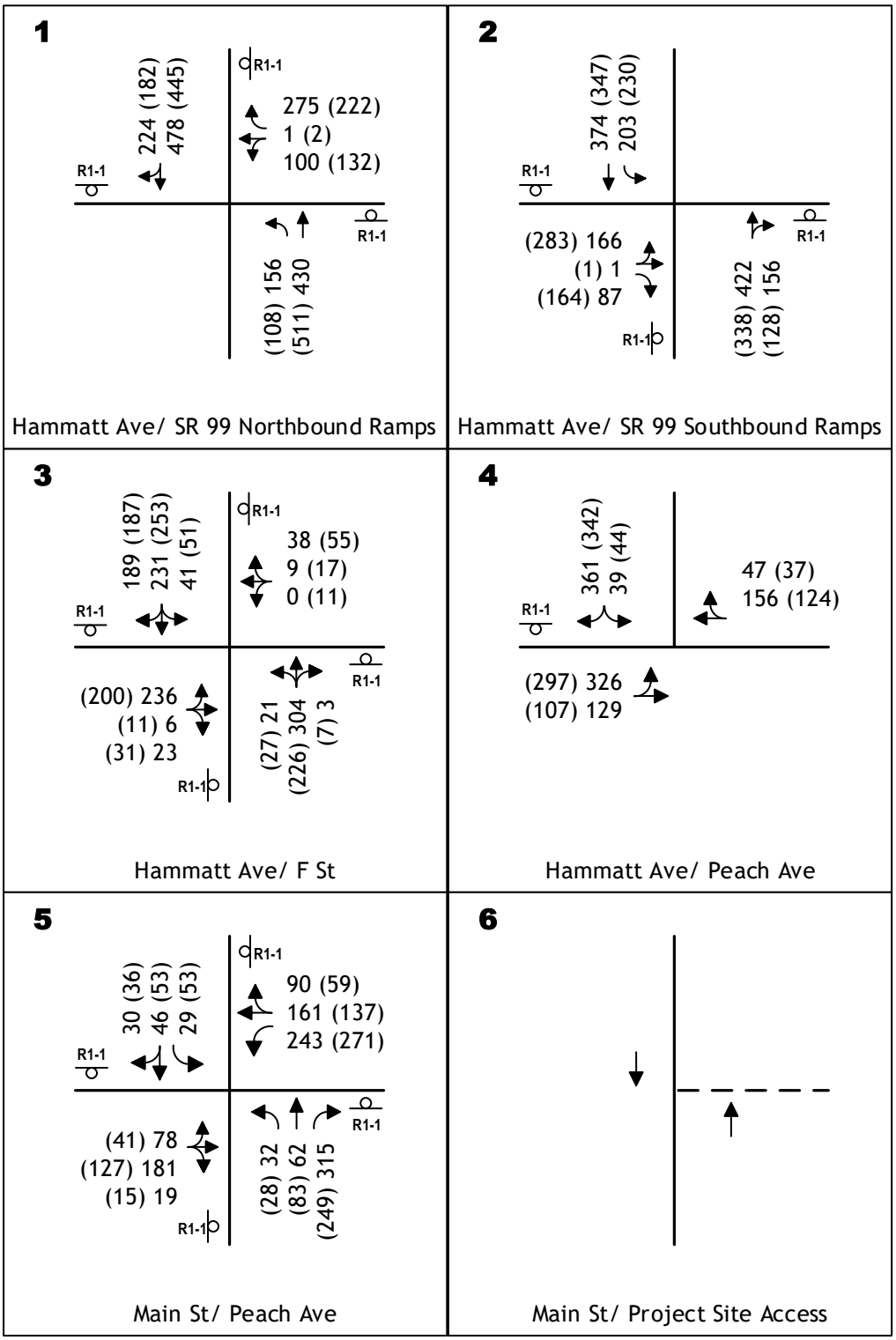
> "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Cumulative traffic volume forecasts were prepared using a method consistent with Section 15130(b)(1)(A) of the *State CEQA Guidelines*, which states cumulative impact may be assessed using "A list of past, present, and probable future projects producing related or cumulative impacts, . . ."

In consultation with City of Livingston staff (Martinez pers comm.), future projects for cumulative conditions presented in this traffic impact study include, in part, the projects and traffic volumes presented in the *Final Initial Study/Mitigated Negative Declaration for the Hammatt Avenue ARCO Project - Livingston, CA* (BaseCamp Environmental, Inc. 2019). For the cumulative analysis used in this traffic impact study, the projects presented in the Hammatt Avenue ARCO project were supplemented with additional future projects (Hatch pers. comm. and Arredondo pers. comm.). Descriptions of projects from the *Final Initial Study/Mitigated Negative Declaration for the Hammatt Avenue ARCO Project - Livingston, CA* and supplemental projects from City of Livingston staff are presented in the technical appendix.

Trip generation, trip distribution and traffic assignment for the future projects were developed using data from the *Final Initial Study/Mitigated Negative Declaration for the Hammatt Avenue ARCO Project - Livingston, CA* and methods described earlier in the *Project Characteristics* section of this traffic impact study.

Application of the methods described above results in long-term future Cumulative No Project peak hour traffic volumes presented in **Figure 8**.



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- ----- — Future Roadway

NORTH

N.T.S.

CUMULATIVE NO PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 8

LEVELS OF SERVICE

Peak hour LOS were calculated at the five study intersections under Cumulative No Project Conditions. Intersection LOS calculation worksheets for this and all other scenarios are presented in the technical appendix. The results of these calculations are presented on **Table 9**. As shown, three of the five study intersections would operate at acceptable LOS C or better during both the a.m. and p.m. peak hours. No improvements are recommended at these three intersections.

The following describes the two intersections that would operate at an unacceptable LOS under Cumulative No Project conditions.

Hammatt Avenue & State Route 99 Northbound Ramps. Under Cumulative No Project conditions, the intersection of Hammatt Avenue & SR 99 Northbound Ramps would operate at LOS F with 108.8 seconds of delay during the a.m. peak hour and LOS F with 87.7 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. To improve LOS to an acceptable level, the following improvement is recommended:

Recommended Improvement. Signalize the intersection of Hammatt Avenue & SR 99 Northbound Ramps. As shown in **Table 9**, this intersection would meet peak hour signal warrants under Cumulative No Project conditions. As shown in **Table 10**, with implementation of this recommended improvement this intersection would operate at LOS B with 13.5 seconds of delay during the a.m. peak hour and LOS A with 9.2 seconds of delay during the p.m. peak hour. LOS B and A are considered acceptable.

Hammatt Avenue & State Route 99 Southbound Ramps. Under Cumulative No Project conditions, the intersection of Hammatt Avenue & SR 99 Southbound Ramps would operate at LOS E with 47.2 seconds of delay during the a.m. peak hour and LOS E with 35.3 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. To improve LOS to an acceptable level, the following improvement is recommended:

Recommended Improvement. Signalize the intersection of Hammatt Avenue & SR 99 Southbound Ramps. As shown in **Table 9**, this intersection would meet peak hour signal warrants under Cumulative No Project conditions. As shown in **Table 10**, with implementation of this recommended improvement this intersection would operate at LOS A with 7.1 seconds of delay during the a.m. peak hour and LOS A with 8.8 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

Table 9. Level of Service - Cumulative No Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak		PM Peak	
			LOS	Delay	LOS	Delay
1 Hammatt Avenue & State Route 99 Northbound Ramps	AWSC	Yes	F	108.8	F	87.7
2 Hammatt Avenue & State Route 99 Southbound Ramps	AWSC	Yes	E	47.2	E	35.3
3 Hammatt Avenue & F Street	AWSC	No	C	19.6	C	20.6
4 Hammatt Avenue & Peach Avenue	Unsig	Yes	C	22.9	C	19.0
5 Main Street & Peach Avenue	AWSC	No	C	24.0	C	17.3
6 Main Street & Project Site Access	- -		- -	- -	- -	- -

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.
Dashes ("- -") indicate the intersection would not be present under this scenario.

Table 10. Level of Service - Cumulative No Project Conditions With Recommended Improvements

Study Intersections	Inters. Control	AM Peak		PM Peak	
		LOS	Delay	LOS	Delay
1 Hammatt Avenue & State Route 99 Northbound Ramps	Signal	B	13.5	A	9.2
2 Hammatt Avenue & State Route 99 Southbound Ramps	Signal	A	7.1	A	8.8

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized control.
Delay is measured in seconds per vehicle.

CUMULATIVE PLUS PROJECT CONDITIONS

This section of this traffic impact study describes the impacts of the Sanghera Apartment project with long-term future cumulative background conditions.

TRAFFIC VOLUMES

Traffic volumes under Cumulative Plus Project conditions were calculated by adding project-related trips to Cumulative No Project background conditions traffic volumes. Project-related trips shown in **Figure 6** were added to cumulative background traffic volumes shown in **Figure 8**. The resulting Cumulative Plus Project traffic volumes are shown in **Figure 9**.

LEVELS OF SERVICE

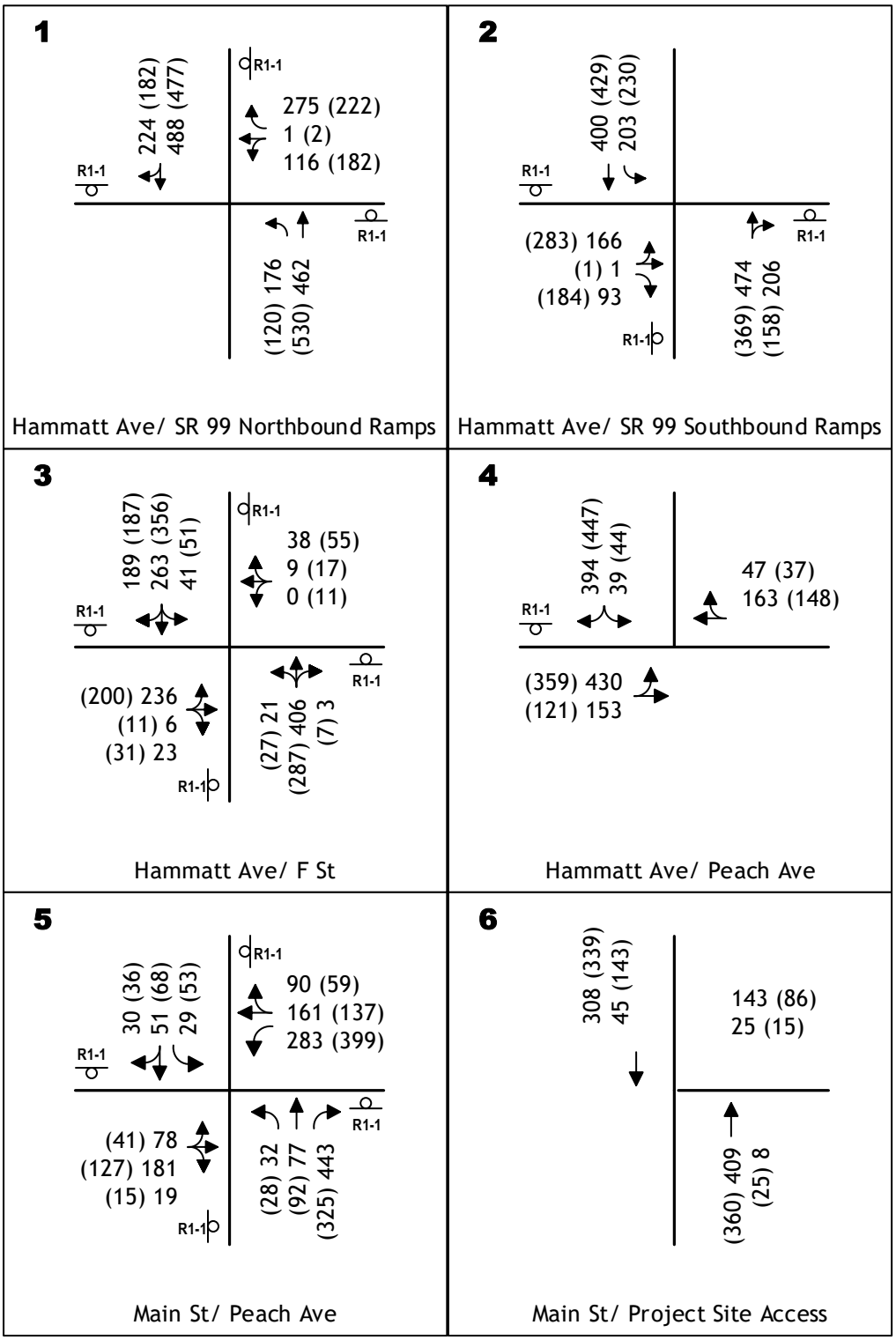
The following describes the impacts of the proposed project on study intersections. Peak hour LOS was calculated at the six study intersections under Cumulative Plus Project conditions. Intersection LOS calculation worksheets for this and all other scenarios are presented in the technical appendix. The results of these calculations are presented on **Table 11**. As shown, one of the six study intersections would operate at acceptable LOS C or better during both the a.m. and p.m. peak hours. The impact of the proposed project on this intersection is considered less-than-significant and no mitigation measures are required at this intersection.

The following describes the five intersections that would operate at an unacceptable LOS under Cumulative Plus Project conditions.

Hammatt Avenue & State Route 99 Northbound Ramps. Under Cumulative Plus Project conditions, the intersection of Hammatt Avenue & SR 99 Northbound Ramps would operate at LOS F with 118.2 seconds of delay during the a.m. peak hour and LOS F with 109.1 seconds of delay during the p.m. peak hour. Because LOS F is considered unacceptable and the amount of vehicle delay under Cumulative Plus Project conditions would be greater than under Cumulative No Project conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & SR 99 Northbound Ramps. As shown in **Table 11**, this intersection would meet peak hour signal warrants under Cumulative Plus Project conditions. As shown in **Table 12**, with implementation of this mitigation measure this intersection would operate at LOS B with 14.4 seconds of delay during the a.m. peak hour and LOS B with 10.1 seconds of delay during the p.m. peak hour. LOS B is considered acceptable. This mitigation measure is the same as the recommended improvement for this intersection under Cumulative No Project Conditions.

The project applicant will pay a fair share of the cost of this mitigation measure.



Legend

XX AM Peak Hour Volume

(XX) PM Peak Hour Volume

R1-1 Stop Sign

NORTH

N.T.S.

CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

0780-16 RA 3/10/2020

figure 9

Table 11. Level of Service - Cumulative Plus Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak		PM Peak	
			LOS	Delay	LOS	Delay
1 Hammatt Avenue & State Route 99 Northbound Ramps	AWSC	Yes	F	118.2	F	109.1
2 Hammatt Avenue & State Route 99 Southbound Ramps	AWSC	Yes	F	83.6	F	56.6
3 Hammatt Avenue & F Street	AWSC	Yes	D	29.6	E	43.1
4 Hammatt Avenue & Peach Avenue	Unsig	Yes	E	46.8	E	35.5
5 Main Street & Peach Avenue	AWSC	Yes	E	47.2	E	39.5
6 Main Street & Project Site Access	Unsig	No	C	15.4	B	14.6

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop-sign control.
Delay is measured in seconds per vehicle.

Table 12. Level of Service - Cumulative Plus Project Conditions With Mitigation Measures

	Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1	Hammatt Avenue & State Route 99 Northbound Ramps	Signal	B	14.4	B	10.1
2	Hammatt Avenue & State Route 99 Southbound Ramps	Signal	A	8.6	A	9.5
3	Hammatt Avenue & F Street	Signal	A	7.6	A	7.4
4	Hammatt Avenue & Peach Avenue	Signal	C	34.2	C	22.0
5	Main Street & Peach Avenue	Signal	A	8.6	A	7.8

Notes: "LOS" = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized control.
Delay is measured in seconds per vehicle.

Hammatt Avenue & State Route 99 Southbound Ramps. Under Cumulative Plus Project conditions, the intersection of Hammatt Avenue & SR 99 Southbound Ramps would operate at LOS F with 83.6 seconds of delay during the a.m. peak hour and LOS F with 56.6 seconds of delay during the p.m. peak hour. Because LOS F is considered unacceptable and the amount of vehicle delay under Cumulative Plus Project conditions would be greater than under Cumulative No Project conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & SR 99 Southbound Ramps. As shown in **Table 11**, this intersection would meet peak hour signal warrants under Cumulative Plus Project conditions. As shown in **Table 12**, with implementation of this mitigation measure this intersection would operate at LOS A with 8.6 seconds of delay during the a.m. peak hour and LOS A with 9.5 seconds of delay during the p.m. peak hour. LOS A is considered acceptable. This mitigation measure is the same as the recommended improvement for this intersection under Cumulative No Project Conditions.

The project applicant will pay a fair share of the cost of this mitigation measure.

Hammatt Avenue & F Street. Under Cumulative Plus Project conditions, the intersection of Hammatt Avenue & F Street would operate at LOS D with 29.6 seconds of delay during the a.m. peak hour and LOS E with 43.1 seconds of delay during the p.m. peak hour. Because LOS D and E are considered unacceptable and the amount of vehicle delay under Cumulative Plus Project conditions would be greater than under Cumulative No Project conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & F Street. As shown in **Table 11**, this intersection would meet peak hour signal warrants under Cumulative Plus Project conditions. As shown in **Table 12**, with implementation of this mitigation measure this intersection would operate at LOS A with 7.6 seconds of delay during the a.m. peak hour and LOS A with 7.4 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

The project applicant will pay a fair share of the cost of this mitigation measure.

Hammatt Avenue & Peach Avenue. Under Cumulative Plus Project conditions, the intersection of Hammatt Avenue & Peach Avenue would operate at LOS E with 46.8 seconds of delay during the a.m. peak hour and LOS E with 35.5 seconds of delay during the p.m. peak hour. Because LOS E is considered unacceptable and the amount of vehicle delay under Cumulative Plus Project conditions would be greater than under Cumulative No Project conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Hammatt Avenue & Peach Avenue. As shown in **Table 11**, this intersection would meet peak hour signal warrants under Cumulative Plus Project conditions. As shown in **Table 12**, with implementation of this mitigation measure this

intersection would operate at LOS C with 34.2 seconds of delay during the a.m. peak hour and LOS C with 22.0 seconds of delay during the p.m. peak hour. LOS C is considered acceptable.

The project applicant will pay a fair share of the cost of this mitigation measure.

Main Street & Peach Avenue. Under Cumulative Plus Project conditions, the intersection of Main Street & Peach Avenue would operate at LOS E with 47.2 seconds of delay during the a.m. peak hour and LOS E with 39.5 seconds of delay during the p.m. peak hour. Because LOS E is considered unacceptable and the amount of vehicle delay under Cumulative Plus Project conditions would be greater than under Cumulative No Project conditions, the impact of the project is considered significant. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure. Signalize the intersection of Main Street & Peach Avenue. As shown in **Table 11**, this intersection would meet peak hour signal warrants under Cumulative Plus Project conditions. As shown in **Table 12**, with implementation of this mitigation measure this intersection would operate at LOS A with 8.6 seconds of delay during the a.m. peak hour and LOS A with 7.8 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

The project applicant will pay a fair share of the cost of this mitigation measure.

CITATIONS

PUBLICATIONS CITED

BaseCamp Environmental, Inc. 2019. Final Initial Study/Mitigated Negative Declaration for the Hammatt Avenue ARCO Project - Livingston, CA. Lodi, CA.

California Department of Transportation. 2002. Guide for the Preparation of Traffic Impact Studies. Sacramento, CA.

California Department of Transportation. 2014. California Manual on Uniform Traffic Control Devices 2014 Edition. Sacramento CA.

California Department of Transportation. 2017. Transportation Concept Report – State Route 99 - District 10. Stockton, CA.

California Department of Transportation. 2020. Caltrans Traffic Census Program Internet Website. https://dot.ca.gov/programs/traffic-operations/census.

Institute of Transportation Engineers. 2017. Trip Generation Manual, 10th Edition. Washington, D.C.

Livingston. 1999. General Plan – Livingston, California. Livingston, California.

Merced, County of. 2013. 2030 Merced County General Plan. Merced, CA.

Trafficware. 2020. Trafficware Internet Website. http://www.trafficware.com/

Transportation Research Board. 2010. Highway Capacity Manual 2010. Washington, D.C.

Transportation Research Board. 2016. Highway Capacity Manual, Sixth Edition. Washington, D.C.

PERSONAL COMMUNICATIONS

Arredondo, Filomena. Senior Administrative Assistant. City of Livingston. February 11, 2020 E-mail message to Randy Hatch, City of Livingston; and Wayne Shijo, KD Anderson & Associates.

Farmer, Terry. BaseCamp Environmental. March 11, 2020 E-mail message to Wayne Shijo, KD Anderson & Associates.

Hatch, Randy. Contract City Planner. City of Livingston. October 3, 2019 E-mail message to

Wayne Shijo, KD Anderson & Associates; and November 12, 2019 E-mail message to Ken Anderson, KD Anderson & Associates.

Martinez, Noe. P.E. City of Livingston. October 3, 2019 telephone conversation with Ken Anderson, KD Anderson & Associates. October 3, 2019 E-mail message to with Ken Anderson and Wayne Shijo KD Anderson & Associates.

TECHNICAL APPENDIX

(in separate electronic file)

THE TECHNICAL APPENDICES TO THE
K. D. ANDERSON TRAFFIC STUDY FOR THE
SANGHERA APARTMENT PROJECT
ARE AVAILABLE ON REQUEST FROM THE CITY OF LIVINGSTON

CONTACT: FILOMENA ARREDONDO
filo@livingstoncity.com
(209) 394-8041