SMALL PROJECT ANALYSIS LEVEL ASSESSMENT

Fairview Multi-Family Residential SPAL
Bakersfield, CA

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1. EXECUTIVE SUMMARY

1.1 Executive Summary

Trinity Consultants has completed a limited air quality assessment for a multi-family residential community to be located on APN 412-010-58 near the intersection of Fairview Road and Monitor Street in Bakersfield, CA. The Project includes the construction of a 168 low-rise apartment units.

This limited air quality assessment uses the San Joaquin Valley Air Pollution Control District's (SJVAPCD) screening tool, Small Project Analysis Level (SPAL) (SJVAPCD 2017). This SPAL assessment was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the California Environmental Quality Act (CEQA) (Public Resources Code 21000 to 21189) and the CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

1.2 Statement of Finding

Based on the SPAL established by the SJVAPCD's GAMAQI, the emissions estimates prepared pursuant to this SPAL assessment do not exceed the SJVAPCD's established emissions thresholds and significance thresholds for all CEQA air quality determinations; this Project would therefore not pose a significant impact to the San Joaquin Valley Air Basin and would have a less than significant air quality impact.

2. PROJECT INFORMATION

2.1 Introduction

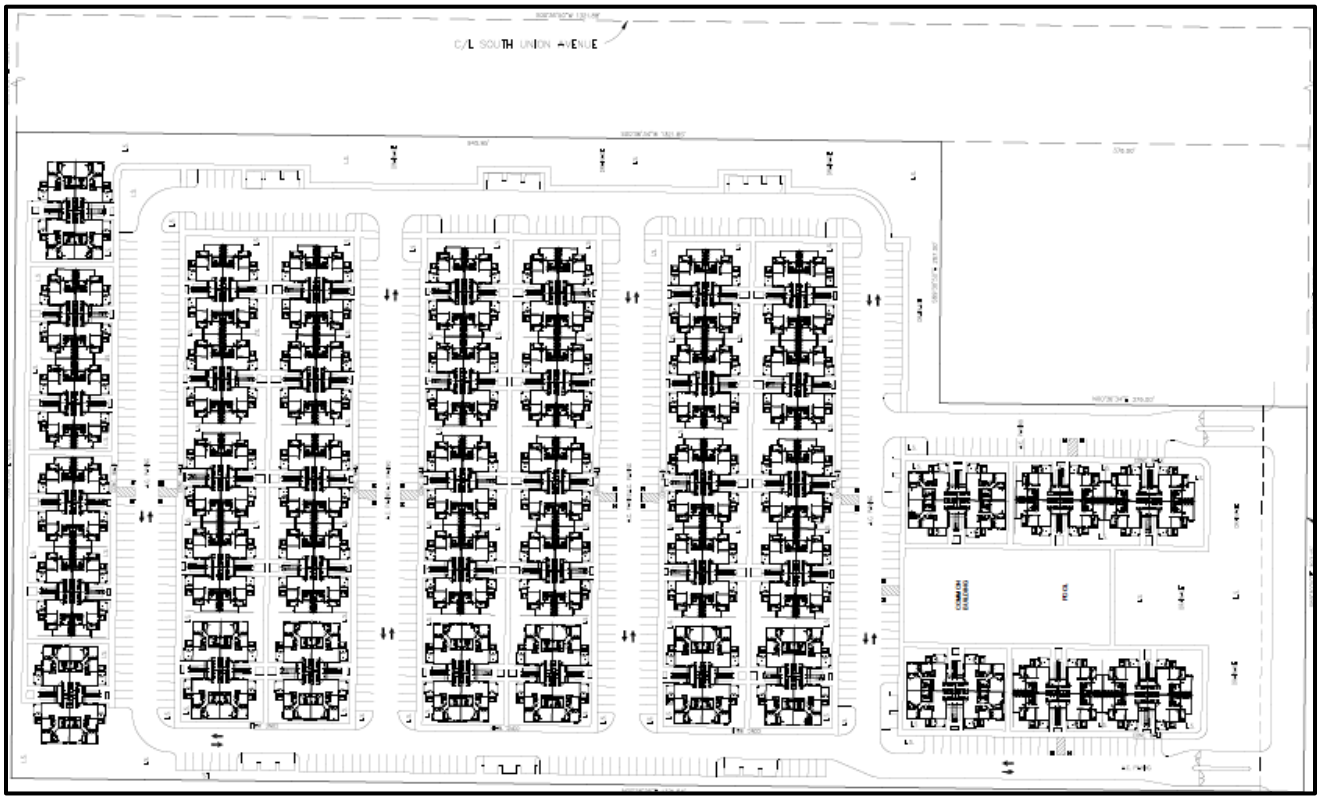
The Project site is located in the City of Bakersfield east of the intersection of Fairview Road and Monitor Street on APN 412-010-58. The Project includes the construction of 168 low-rise apartment units. The Project was assessed as if it would be developed in one phase. This assessment examines the projected gross impacts to air quality posed by this Project to the San Joaquin Valley Air Basin to determine whether or not the Project remains below established air quality thresholds of significance.

2.2 Project Location

The Project is located in the City of Bakersfield, California east of the intersection of Fairview Road and Monitor Street. **Figure 2-1** depicts the Project location within the City of Bakersfield and **Figure 2-2** depicts the proposed site plan.

Figure 2-1. Project Location

Figure 2-2. Proposed Site Plan



3. SMALL PROJECT ANALYSIS LEVEL QUALIFICATION

This assessment was prepared pursuant to the SJVAPCD's GAMAQI (SJVAPCD 2015), the CEQA (Public Resources Code 21000 to 21189) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387). The SJVAPCD created the SPAL screening tool to streamline air quality assessments of commonly encountered projects. According to GAMAQI, the SJVAPCD "pre-calculated the emissions on a large number and types of projects to identify the level at which they have no possibility of exceeding the emissions thresholds"[1].

The SJVAPCD SPAL process established review parameters to determine whether a project qualifies as a "small project." A project that is found to be "less than" the established parameters has "no possibility of exceeding criteria pollutant emissions thresholds". **Table 3-1** presents the SPAL size parameters for residential projects.

Table 3-1. Small Project Analysis Level in Units for Residential

Land Use Category - Residential	Project Size (dwelling unit)*
Single Family	155
Apartment, Low Rise	224
Apartment, Mid Rise	225
Apartment, High Rise	340
Condominiums/Townhouse	256
Condominiums, High Rise	352
Mobile Home Park	292
Retirement Community	580
Congregate Care Assisted Living	536
Proposed Project – Apartment, Low Rise	**168**
SPAL Exceeded?	No
*Project size based on SPAL Table 5-3(b), as posted on SJVAPCD webpage: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF	

As shown in **Table 3-1**, the proposed Project would not exceed the established SPAL limits for an "Apartment, Low Rise" residential project. The Project would construct 168 low-rise apartment units compared to the allowable project size for an Apartment, Low Rise project which is 224 units. Based on the above information, this Project qualifies for a limited air quality analysis applying the SPAL guidance to determine air quality impacts.

[1] SJVAPCD GAMAQI, Section 8.3.4, Page 85.

4. AIR QUALITY IMPACTS THRESHOLDS AND EVALUATION METHODOLOGY

Significance thresholds are based on the CEQA Appendix G Environmental Checklist Form (not included herein) and SJVAPCD air quality thresholds (SJVAPCD 2015). A potentially significant impact to air quality, as defined by the CEQA Checklist, would occur if the project caused one or more of the following to occur:

- Conflict with or obstruct implementation of the 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;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SJVAPCD has identified quantitative emission thresholds to determine whether the potential air quality impacts of a project require analysis in the form of an Environmental Impact Report. The SJVAPCD air quality thresholds from the GAMAQI are presented in **Table 4-1** (SJVAPCD 2015). The SJVAPCD separates construction emissions from operational emissions, and further separates permitted operational emissions from non-permitted operational emissions, for determining significance thresholds for air pollutant emissions.

Table 4-1. SJVAPCD Air Quality Thresholds of Significance - Criteria Pollutants

Pollutant/ Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD 2015

Criteria pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2016). This project would generate short-term construction emissions and long-term operational emissions.

An air quality evaluation also considers: 1) exposure of sensitive receptors to substantial pollutant concentrations; and 2) the creation of other emissions (such as those leading to odors) adversely affecting a substantial number of people. The criteria for this evaluation are based on the Lead Agency's determination of the proximity of the proposed Project to sensitive receptors. A sensitive receptor is a location where human populations, especially children, senior citizens, and sick persons, are present, and where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, i.e., the 24-hour, 8-hour or 1-hour standards. Commercial and industrial sources are not considered sensitive receptors.

5. PROJECT-RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's GAMAQI and SPAL guidelines and provides a cursory review of the Project emissions to demonstrate that it would not exceed established air quality emissions thresholds.

5.1 Short-Term Emissions

Table 5-1 shows the construction emission levels using default CalEEMod factors for construction of 168 low-rise apartment units (see Attachment A).

Construction emission estimates also included the following SJVAPCD's required measures for all projects:

- Water exposed area 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Based on these anticipated activity levels, the Project construction activities would not exceed construction thresholds (**Table 4-1**). Therefore, construction emissions were found to be less than significant, and no further evaluation is required.

Table 5-1. Construction Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
2022 Construction Emissions	0.24	2.13	2.05	0.00	0.27	0.15
2023 Construction Emissions	1.73	1.27	1.53	0.00	0.14	0.08
Max Construction Emissions	*1.73*	*2.13*	*2.05*	*0.00*	*0.27*	*0.15*
SJVAPCD Construction Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

5.2 Long-Term Emissions

Table 5-2 presents the Project's long-term operations emissions generated from mobile, energy, and area sources as well as from water use and waste generation emissions. Most of these emissions impacts are from mobile sources traveling to and from the Project area. The following changes to default values were incorporated during the CalEEMod analysis:

- Vehicle Fleet Mix was updated to reflect SJVAPCD approved residential fleet mix.

Operational emission estimates also included the following mitigation measures even though the project was less than significant before mitigation:

- Improved Walkability Design;
- Improved Destination Accessibility;
- Increased Transit Accessibility;
- Improved Pedestrian Network;
- Use electric lawnmower, leaf blower, and chainsaw (3% per SJVAPCD).

Table 5-2. Total Project Operational Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
Unmitigated						
Operational Emissions	1.15	1.13	4.70	0.01	1.24	0.35
SJVAPCD Operational Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded Before Mitigation?	**No**	**No**	**No**	**No**	**No**	**No**
Mitigated						
Operational Emissions	1.14	1.07	4.38	0.01	1.10	0.31
SJVAPCD Operational Emissions Thresholds	10	10	100	27	15	15
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

As calculated (see **Appendix A**), the long-term operational emissions associated with the proposed Project would be less than SJVAPCD significance threshold levels and would, therefore, not pose a significant impact to criteria air pollutants. This finding is consistent with the SPAL screening thresholds.

5.3 Greenhouse Gas Emissions

The Project's greenhouse gas (GHG) emissions are primarily from mobile source activities. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified as carbon dioxide equivalents (CO_2e) (**see Appendix A**). The proposed Project's operational CO_2e emissions were estimated using CalEEMod. These emissions are summarized in **Table 5-3**.

Table 5-3. Estimated Annual Greenhouse Gas Emissions

	CO_2 Emissions metric tons	CH_4 Emissions metric tons	N_2O Emissions metric tons	CO_2e Emissions metric tons
2023 Project Operations	1,460.47	1.35	0.01	1,498.11
2005 BAU	3,011.06	2.15	0.01	3,069.09
BAU less Project emissions				**51.2%**

The current inventory and forecast for GHG emissions in the California Air Resources Board's 2008 Climate Change Scoping Plan supports the 2011 IPPC estimates. The 2008 Climate Change Scoping Plan also indicates that GHG emissions will increase to 596.41 million metric tons of CO_2e by 2020. It is widely understood that climate change is a "global" issue and, as such, GHG emissions are a cumulative problem and can only be evaluated as such.

The amount of CO_2 that would be generated by the Project is so small in relation to the California CO_2 equivalent estimates for 2020 (596 million metric tons CO_2e) that it's not possible for the contribution of the project to be cumulatively considerable. Additionally, the Project's GHG emissions are less than the 2005 business as usual emissions for the Project by 1,570.98 metric tons CO_2e, which is a 51.2% reduction. Therefore, the Project would not generate a cumulatively considerable GHG impact, nor would it conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. The Project will also not conflict with any elements of the California Air Resources Board's 2008 Climate Change Scoping Plan. Therefore, this potential impact is less than significant.

5.4 Potential Impact on Sensitive Receptors

The proposed Project is located east of the northeast corner of Fairview Road and Monitor Street. Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside. Schools, hospitals, nursing homes and daycare centers are locations where sensitive receptors would likely reside. The closest sensitive receptors are at Palla Raffaello Elementary School located directly west of the proposed Project site. The next closest schools are Greenfield Middle school at 0.45 miles to the northwest, Fairview Elementary School located 0.67 miles to the east, Plantation Elementary School at 0.79 miles to the northwest, Valle Verde Elementary School 0.82 miles to the south, and WA Kendrick Elementary School at 0.91 miles to the west. There are no other known schools, hospitals, or nursing homes within a one-mile radius of the Project.

Based on the predicted operational emissions and activity types, the proposed Project is not expected to affect any on-site or off-site sensitive receptors and is not expected to have any adverse impacts on any known sensitive receptor.

5.5 Potential Impacts to Visibility to Nearby Class 1 Areas

It should be noted that visibility impact analyses are not usually conducted for area sources. The recommended analysis methodology was initially intended for stationary sources of emissions which were subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60. Since the Project's emissions are predicted to be significantly less than the PSD threshold levels, an impact at either the Dome Land Wilderness or the Sequoia National Park Areas (the two nearest Class 1 areas to the Project) is extremely unlikely. Therefore, based on the Project's predicted emissions, the Project is not expected to have any adverse impact to visibility at any Class 1 Area.

5.6 Potential Odor Impacts

The proposed Project is a low-rise apartment community located near commercial and residential neighborhoods. Expected uses are not known to be a source of nuisance odors and are not listed in Table 6 of the SJVAPCD's GAMAQI. The Project is therefore not anticipated to have substantial odor impacts. The Project is therefore anticipated to have a less than significant odor impact.

5.7 Ambient Air Quality Impacts

As stated in the of GAMAQI (2015, p 96-97), SJVAPCD has developed screening levels for requiring an Ambient Air Quality Analysis (AAQA). The SJVAPCD recommends that an AAQA be performed for all criteria pollutants when emissions of any criteria pollutant resulting from project construction or operational activities exceed the 100 pounds per day screening level, after compliance with Rule 9510 requirements and implementation of all enforceable mitigation measures.

As shown above in **Table 5-1** and **5-2**, average daily emissions for construction and operational activities associated with this Project would not exceed 100 pounds per day. Therefore, an AAQA is not required for this Project.

5.8 Toxic Air Contaminant (TAC) Impacts

TACs, as defined by the California Health & Safety Code (CH&SC) §44321, are listed in Appendices AI and AII in AB 2588 Air Toxic "Hot Spots" and Assessment Act's Emissions Inventory Criteria and Guideline Regulation document. SJVAPCD's risk management objectives for permitting and CEQA are as follows:

- Minimize health risks from new and modified sources of air pollution.
- Health risks from new and modified sources shall not be significant relative to the background risk levels and other risk levels that are typically accepted throughout the community.
- Avoid unreasonable restrictions on permitting.

The proposed Project would result in emissions of Hazardous Air Pollutants (HAPs) during construction and would be located near existing residents and businesses; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required. To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over the construction period for construction emissions. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. HAP emissions from anticipated on-site construction activities were evaluated.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Diesel combustion emissions from diesel on-site construction equipment were modeled as an area source for on-site construction activity on the property. Diesel particulate matter was calculated using CalEEMod for onsite construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for each source. The time-of-day variable emissions rates were applied in AERMOD since construction emissions are expected to be limited to specific work hours provided by the project proponent. This scenario places the highest level of activity and impact in the closest proximity to potential receptors to determine if, at the Project's highest potential impact, it would present adverse health risks to nearby receptors. Operational emissions from the apartment community would not generate HAP emissions.

Discrete receptors were placed on residences and businesses within close proximity of the Project site and receptor grids over more densely populated areas. A total of 715 discrete off-site receptors were analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET processed meteorological datasets for the Bakersfield monitoring station, calendar years 2013 through 2017 was input to AERMOD (SJVAPCD 2018). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT v21081) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2021). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic and acute noncancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for the mandatory minimum pathways of inhalation, soil ingestion, dermal, and mother's milk for residential receptors and inhalation, soil ingestion,

and dermal for worker receptors. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor. A hazard index for acute non-cancer health effects was not computed since DPM does not have a risk exposure level for acute risk.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0. All receptors were modeled with a 2-year exposure for the construction activities.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the maximum exposed individual resident and worker (MEIR and MEIW, respectively) do not exceed the significance levels of twenty in one million (20E-06) and 1.0, respectively for the proposed Project. The MEIR and MEIW are identified by receptor location and risk and are provided in **Table 5-4**. The electronic AERMOD and HARP2 output files are provided in Attachment E.

Table 5-4. Potential Maximum Health Risk Impacts

	Value	UTM East	UTM N
Excess Cancer Risk (residence)	1.69E-05	317402.8	3908492.3
Chronic Hazard Index (residence)	9.86E-03	317402.8	3908492.3
Excess Cancer Risk (worker)	6.23E-07	317404.4	3908676.8
Chronic Hazard Index (worker)	2.41E-02	317404.4	3908676.8

As shown above in **Table 5-4**, the maximum predicted cancer risk for the proposed Project is 1.69E-05. The maximum chronic non-cancer hazard index for the proposed Project is 2.41E-02. Since the MEIR and MEIW remained below the significance threshold for cancer and chronic risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be less than significant based on the following conclusions:

1. Potential carcinogenic risk from the proposed Project is below the significance level of twenty in a million at each of the modeled receptors; and
2. The hazard index for the potential chronic non-cancer risk from the proposed Project is below the significance level of 1.0 at each of the modeled receptors.
3. The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed Project is considered below the significance level.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.

5.9 Cumulative Impacts

Cumulative impacts were also evaluated; however, cumulative emissions were not quantified because no other tentative projects were found within a one-mile radius of the Proposed Project that provided enough project detail information to accurately estimate emissions. Owing to the inherently cumulative nature of air quality impacts, the threshold for whether a project would make a cumulatively considerable contribution to a significant cumulative impact is currently based on whether the proposed Project would exceed established

project-level thresholds. As such, a qualitative evaluation of the cumulative projects supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions increase would be less than significant.

6. CONCLUSIONS

Based on the criteria established by the SJVAPCD's GAMAQI and SPAL guidelines, the proposed Project does not meet the minimum standards to require a full Air Quality Impact Analysis. Furthermore, the Project as proposed would not exceed the SJVAPCD's criteria air pollutant emission levels and would generate *less than significant air quality impacts*.

7. REFERENCES

California Environmental Quality Act (CEQA). 2021. (Public Resources Code 21000 - 21189) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

---------. 2021. CEQA, Appendix G – Environmental Checklist Form, Final Text.

California Air Pollution Control Officers Association (CAPCOA). 2016. California Emissions Estimator Model tm (CalEEMod), version 2016.3.2.

----------. 2016. "Air Toxic Hot Spots" Facility Prioritization Guidelines, Revised 2016.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2020. Small Project Analysis Level (SPAL) Memorandum. November 13, 2020. http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF

----------. 2015. Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). March 19, 2015. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf

----------. 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17, 2009.

APPENDIX A. CALEEMOD EMISSIONS ESTIMATES OUTPUT FILES

Fairview SPAL

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	168.00	Dwelling Unit	17.73	168,000.00	480

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
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

Project Characteristics -

Land Use - Total project lot size = 17.73 acres

Construction Phase -

Grading -

Fleet Mix - SJVAPCD 2023 Residential Fleet Mix

Woodstoves - No hearths

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Fairview SPAL - Kern-San Joaquin County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	10/12/2023	9/14/2023
tblConstructionPhase	PhaseEndDate	8/17/2023	7/20/2023
tblConstructionPhase	PhaseEndDate	6/23/2022	5/26/2022
tblConstructionPhase	PhaseEndDate	9/14/2023	8/17/2023
tblConstructionPhase	PhaseEndDate	5/12/2022	4/14/2022
tblConstructionPhase	PhaseStartDate	9/15/2023	8/18/2023
tblConstructionPhase	PhaseStartDate	6/24/2022	5/27/2022
tblConstructionPhase	PhaseStartDate	5/13/2022	4/15/2022
tblConstructionPhase	PhaseStartDate	8/18/2023	7/21/2023
tblConstructionPhase	PhaseStartDate	4/29/2022	4/1/2022
tblFireplaces	NumberGas	92.40	0.00
tblFireplaces	NumberNoFireplace	75.60	0.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.1000e-003
tblFleetMix	LHD2	5.5720e-003	9.0000e-004
tblFleetMix	MCY	5.7600e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	7.5900e-004	1.9000e-003
tblFleetMix	MHD	0.02	8.5000e-003
tblFleetMix	OBUS	1.6120e-003	0.00
tblFleetMix	SBUS	9.1200e-004	4.0000e-004
tblFleetMix	UBUS	1.6100e-003	4.3000e-003

tblLandUse	LotAcreage	10.50	17.73

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					
2022	0.2399	2.1327	2.0484	4.3700e-003	0.3090	0.0966	0.4056	0.1273	0.0902	0.2175	0.0000	384.7509	384.7509	0.0795	0.0000	386.7374
2023	1.7329	1.2706	1.5331	3.2200e-003	0.0820	0.0568	0.1388	0.0220	0.0533	0.0753	0.0000	283.8374	283.8374	0.0493	0.0000	285.0708
Maximum	**1.7329**	**2.1327**	**2.0484**	**4.3700e-003**	**0.3090**	**0.0966**	**0.4056**	**0.1273**	**0.0902**	**0.2175**	**0.0000**	**384.7509**	**384.7509**	**0.0795**	**0.0000**	**386.7374**

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					
2022	0.2399	2.1327	2.0484	4.3700e-003	0.1745	0.0966	0.2711	0.0642	0.0902	0.1543	0.0000	384.7506	384.7506	0.0795	0.0000	386.7371
2023	1.7329	1.2706	1.5331	3.2200e-003	0.0820	0.0568	0.1388	0.0220	0.0533	0.0753	0.0000	283.8372	283.8372	0.0493	0.0000	285.0706
Maximum	**1.7329**	**2.1327**	**2.0484**	**4.3700e-003**	**0.1745**	**0.0966**	**0.2711**	**0.0642**	**0.0902**	**0.1543**	**0.0000**	**384.7506**	**384.7506**	**0.0795**	**0.0000**	**386.7371**

Fairview SPAL - Kern-San Joaquin County, Annual

	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**	**34.39**	**0.00**	**24.70**	**42.32**	**0.00**	**21.58**	**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	**4-1-2022**	**6-30-2022**	1.0695	1.0695
2	**7-1-2022**	**9-30-2022**	0.6545	0.6545
3	**10-1-2022**	**12-31-2022**	0.6550	0.6550
4	**1-1-2023**	**3-31-2023**	0.5804	0.5804
5	**4-1-2023**	**6-30-2023**	0.5866	0.5866
6	**7-1-2023**	**9-30-2023**	1.8350	1.8350
		Highest	1.8350	1.8350

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	0.8514	0.0144	1.2477	7.0000e-005		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	2.0376	2.0376	1.9600e-003	0.0000	2.0866
Energy	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	355.3401	355.3401	0.0128	4.4600e-003	356.9890
Mobile	0.2865	1.0076	3.4069	0.0130	1.2176	9.6900e-003	1.2273	0.3255	9.0000e-003	0.3345	0.0000	1,190.5593	1,190.5593	0.0542	0.0000	1,191.9132
Waste						0.0000	0.0000		0.0000	0.0000	15.6871	0.0000	15.6871	0.9271	0.0000	38.8642
Water						0.0000	0.0000		0.0000	0.0000	3.4726	24.2563	27.7290	0.3578	8.6500e-003	39.2505
Total	**1.1507**	**1.1314**	**4.7012**	**0.0137**	**1.2176**	**0.0255**	**1.2430**	**0.3255**	**0.0248**	**0.3503**	**19.1598**	**1,572.1933**	**1,591.3531**	**1.3537**	**0.0131**	**1,629.1035**

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	0.8509	0.0143	1.2387	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0193	2.0193	1.9300e-003	0.0000	2.0676
Energy	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	355.3401	355.3401	0.0128	4.4600e-003	356.9890
Mobile	0.2764	0.9466	3.0915	0.0115	1.0739	8.6800e-003	1.0826	0.2871	8.0600e-003	0.2952	0.0000	1,059.6993	1,059.6993	0.0494	0.0000	1,060.9353
Waste						0.0000	0.0000		0.0000	0.0000	15.6871	0.0000	15.6871	0.9271	0.0000	38.8642
Water						0.0000	0.0000		0.0000	0.0000	3.4726	24.2563	27.7290	0.3578	8.6500e-003	39.2505
Total	**1.1401**	**1.0703**	**4.3768**	**0.0123**	**1.0739**	**0.0244**	**1.0983**	**0.2871**	**0.0238**	**0.3109**	**19.1598**	**1,441.3150**	**1,460.4747**	**1.3490**	**0.0131**	**1,498.1065**

	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	**0.92**	**5.40**	**6.90**	**10.35**	**11.80**	**4.20**	**11.64**	**11.80**	**4.04**	**11.25**	**0.00**	**8.32**	**8.22**	**0.35**	**0.00**	**8.04**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2022	4/14/2022	5	10	
2	Grading	Grading	4/15/2022	5/26/2022	5	30	
3	Building Construction	Building Construction	5/27/2022	7/20/2023	5	300	
4	Paving	Paving	7/21/2023	8/17/2023	5	20	
5	Architectural Coating	Architectural Coating	8/18/2023	9/14/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 340,200; Residential Outdoor: 113,400; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
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	121.00	18.00	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	24.00	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 Site Preparation - 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					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0903**	**8.0600e-003**	**0.0984**	**0.0497**	**7.4200e-003**	**0.0571**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

3.2 Site Preparation - 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	3.0000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6186	0.6186	1.0000e-005	0.0000	0.6189
Total	**3.0000e-004**	**1.9000e-004**	**1.9300e-003**	**1.0000e-005**	**7.3000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6186**	**0.6186**	**1.0000e-005**	**0.0000**	**0.6189**

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					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0352**	**8.0600e-003**	**0.0433**	**0.0194**	**7.4200e-003**	**0.0268**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

3.2 Site Preparation - 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	3.0000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6186	0.6186	1.0000e-005	0.0000	0.6189
Total	**3.0000e-004**	**1.9000e-004**	**1.9300e-003**	**1.0000e-005**	**7.3000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6186**	**0.6186**	**1.0000e-005**	**0.0000**	**0.6189**

3.3 Grading - 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					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1301**	**0.0245**	**0.1546**	**0.0540**	**0.0226**	**0.0765**	**0.0000**	**81.8019**	**81.8019**	**0.0265**	**0.0000**	**82.4633**

3.3 Grading - 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	9.8000e-004	6.2000e-004	6.4400e-003	2.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0618	2.0618	5.0000e-005	0.0000	2.0630
Total	**9.8000e-004**	**6.2000e-004**	**6.4400e-003**	**2.0000e-005**	**2.4200e-003**	**2.0000e-005**	**2.4300e-003**	**6.4000e-004**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**2.0618**	**2.0618**	**5.0000e-005**	**0.0000**	**2.0630**

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					0.0507	0.0000	0.0507	0.0210	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.0507**	**0.0245**	**0.0753**	**0.0210**	**0.0226**	**0.0436**	**0.0000**	**81.8018**	**81.8018**	**0.0265**	**0.0000**	**82.4632**

3.3 Grading - 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	9.8000e-004	6.2000e-004	6.4400e-003	2.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0618	2.0618	5.0000e-005	0.0000	2.0630
Total	**9.8000e-004**	**6.2000e-004**	**6.4400e-003**	**2.0000e-005**	**2.4200e-003**	**2.0000e-005**	**2.4300e-003**	**6.4000e-004**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**2.0618**	**2.0618**	**5.0000e-005**	**0.0000**	**2.0630**

3.4 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	0.1331	1.2180	1.2764	2.1000e-003		0.0631	0.0631		0.0594	0.0594	0.0000	180.7457	180.7457	0.0433	0.0000	181.8282
Total	**0.1331**	**1.2180**	**1.2764**	**2.1000e-003**		**0.0631**	**0.0631**		**0.0594**	**0.0594**	**0.0000**	**180.7457**	**180.7457**	**0.0433**	**0.0000**	**181.8282**

3.4 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	4.3000e-003	0.1463	0.0270	4.0000e-004	9.3700e-003	3.6000e-004	9.7300e-003	2.7100e-003	3.4000e-004	3.0500e-003	0.0000	37.9376	37.9376	2.8100e-003	0.0000	38.0079
Worker	0.0310	0.0195	0.2026	7.2000e-004	0.0761	5.1000e-004	0.0766	0.0202	4.7000e-004	0.0207	0.0000	64.8656	64.8656	1.4300e-003	0.0000	64.9012
Total	**0.0353**	**0.1658**	**0.2296**	**1.1200e-003**	**0.0854**	**8.7000e-004**	**0.0863**	**0.0229**	**8.1000e-004**	**0.0237**	**0.0000**	**102.8032**	**102.8032**	**4.2400e-003**	**0.0000**	**102.9091**

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	0.1331	1.2180	1.2763	2.1000e-003		0.0631	0.0631		0.0594	0.0594	0.0000	180.7455	180.7455	0.0433	0.0000	181.8280
Total	**0.1331**	**1.2180**	**1.2763**	**2.1000e-003**		**0.0631**	**0.0631**		**0.0594**	**0.0594**	**0.0000**	**180.7455**	**180.7455**	**0.0433**	**0.0000**	**181.8280**

3.4 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	4.3000e-003	0.1463	0.0270	4.0000e-004	9.3700e-003	3.6000e-004	9.7300e-003	2.7100e-003	3.4000e-004	3.0500e-003	0.0000	37.9376	37.9376	2.8100e-003	0.0000	38.0079
Worker	0.0310	0.0195	0.2026	7.2000e-004	0.0761	5.1000e-004	0.0766	0.0202	4.7000e-004	0.0207	0.0000	64.8656	64.8656	1.4300e-003	0.0000	64.9012
Total	**0.0353**	**0.1658**	**0.2296**	**1.1200e-003**	**0.0854**	**8.7000e-004**	**0.0863**	**0.0229**	**8.1000e-004**	**0.0237**	**0.0000**	**102.8032**	**102.8032**	**4.2400e-003**	**0.0000**	**102.9091**

3.4 Building Construction - 2023

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	0.1132	1.0357	1.1696	1.9400e-003		0.0504	0.0504		0.0474	0.0474	0.0000	166.8994	166.8994	0.0397	0.0000	167.8920
Total	**0.1132**	**1.0357**	**1.1696**	**1.9400e-003**		**0.0504**	**0.0504**		**0.0474**	**0.0474**	**0.0000**	**166.8994**	**166.8994**	**0.0397**	**0.0000**	**167.8920**

3.4 Building Construction - 2023

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	2.8100e-003	0.1032	0.0208	3.6000e-004	8.6500e-003	1.0000e-004	8.7500e-003	2.5000e-003	1.0000e-004	2.5900e-003	0.0000	34.1546	34.1546	1.7800e-003	0.0000	34.1990
Worker	0.0266	0.0161	0.1711	6.4000e-004	0.0702	4.6000e-004	0.0707	0.0187	4.2000e-004	0.0191	0.0000	57.6237	57.6237	1.1700e-003	0.0000	57.6531
Total	**0.0294**	**0.1193**	**0.1919**	**1.0000e-003**	**0.0789**	**5.6000e-004**	**0.0794**	**0.0212**	**5.2000e-004**	**0.0217**	**0.0000**	**91.7783**	**91.7783**	**2.9500e-003**	**0.0000**	**91.8520**

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	0.1132	1.0357	1.1696	1.9400e-003		0.0504	0.0504		0.0474	0.0474	0.0000	166.8992	166.8992	0.0397	0.0000	167.8918
Total	**0.1132**	**1.0357**	**1.1696**	**1.9400e-003**		**0.0504**	**0.0504**		**0.0474**	**0.0474**	**0.0000**	**166.8992**	**166.8992**	**0.0397**	**0.0000**	**167.8918**

3.4 Building Construction - 2023

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	2.8100e-003	0.1032	0.0208	3.6000e-004	8.6500e-003	1.0000e-004	8.7500e-003	2.5000e-003	1.0000e-004	2.5900e-003	0.0000	34.1546	34.1546	1.7800e-003	0.0000	34.1990
Worker	0.0266	0.0161	0.1711	6.4000e-004	0.0702	4.6000e-004	0.0707	0.0187	4.2000e-004	0.0191	0.0000	57.6237	57.6237	1.1700e-003	0.0000	57.6531
Total	**0.0294**	**0.1193**	**0.1919**	**1.0000e-003**	**0.0789**	**5.6000e-004**	**0.0794**	**0.0212**	**5.2000e-004**	**0.0217**	**0.0000**	**91.7783**	**91.7783**	**2.9500e-003**	**0.0000**	**91.8520**

3.5 Paving - 2023

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

3.5 Paving - 2023

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	4.6000e-004	2.8000e-004	2.9500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9921	0.9921	2.0000e-005	0.0000	0.9927
Total	**4.6000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9921**	**0.9921**	**2.0000e-005**	**0.0000**	**0.9927**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

3.5 Paving - 2023

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	4.6000e-004	2.8000e-004	2.9500e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9921	0.9921	2.0000e-005	0.0000	0.9927
Total	**4.6000e-004**	**2.8000e-004**	**2.9500e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9921**	**0.9921**	**2.0000e-005**	**0.0000**	**0.9927**

3.6 Architectural Coating - 2023

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	1.5768					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.5788**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.6 Architectural Coating - 2023

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	7.3000e-004	4.4000e-004	4.7100e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9500e-003	5.1000e-004	1.0000e-005	5.3000e-004	0.0000	1.5874	1.5874	3.0000e-005	0.0000	1.5882
Total	**7.3000e-004**	**4.4000e-004**	**4.7100e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9500e-003**	**5.1000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5874**	**1.5874**	**3.0000e-005**	**0.0000**	**1.5882**

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	1.5768					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**1.5788**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.6 Architectural Coating - 2023

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	7.3000e-004	4.4000e-004	4.7100e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9500e-003	5.1000e-004	1.0000e-005	5.3000e-004	0.0000	1.5874	1.5874	3.0000e-005	0.0000	1.5882
Total	**7.3000e-004**	**4.4000e-004**	**4.7100e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9500e-003**	**5.1000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5874**	**1.5874**	**3.0000e-005**	**0.0000**	**1.5882**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Walkability Design

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	0.2764	0.9466	3.0915	0.0115	1.0739	8.6800e-003	1.0826	0.2871	8.0600e-003	0.2952	0.0000	1,059.6993	1,059.6993	0.0494	0.0000	1,060.9353
Unmitigated	0.2865	1.0076	3.4069	0.0130	1.2176	9.6900e-003	1.2273	0.3255	9.0000e-003	0.3345	0.0000	1,190.5593	1,190.5593	0.0542	0.0000	1,191.9132

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,107.12	1,202.88	1019.76	3,223,022	2,842,706
Total	1,107.12	1,202.88	1,019.76	3,223,022	2,842,706

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 Low Rise	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.530500	0.205800	0.167300	0.055000	0.001100	0.000900	0.008500	0.021800	0.000000	0.004300	0.002500	0.000400	0.001900

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	228.6050	228.6050	0.0103	2.1400e-003	229.5008
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	228.6050	228.6050	0.0103	2.1400e-003	229.5008
NaturalGas Mitigated	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.7351	126.7351	2.4300e-003	2.3200e-003	127.4882
NaturalGas Unmitigated	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.7351	126.7351	2.4300e-003	2.3200e-003	127.4882

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 Low Rise	2.37493e+006	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.7351	126.7351	2.4300e-003	2.3200e-003	127.4882
Total		**0.0128**	**0.1094**	**0.0466**	**7.0000e-004**		**8.8500e-003**	**8.8500e-003**		**8.8500e-003**	**8.8500e-003**	**0.0000**	**126.7351**	**126.7351**	**2.4300e-003**	**2.3200e-003**	**127.4882**

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 Low Rise	2.37493e+006	0.0128	0.1094	0.0466	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.7351	126.7351	2.4300e-003	2.3200e-003	127.4882
Total		**0.0128**	**0.1094**	**0.0466**	**7.0000e-004**		**8.8500e-003**	**8.8500e-003**		**8.8500e-003**	**8.8500e-003**	**0.0000**	**126.7351**	**126.7351**	**2.4300e-003**	**2.3200e-003**	**127.4882**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	785823	228.6050	0.0103	2.1400e-003	229.5008
Total		**228.6050**	**0.0103**	**2.1400e-003**	**229.5008**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	785823	228.6050	0.0103	2.1400e-003	229.5008
Total		**228.6050**	**0.0103**	**2.1400e-003**	**229.5008**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	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	0.8509	0.0143	1.2387	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0193	2.0193	1.9300e-003	0.0000	2.0676
Unmitigated	0.8514	0.0144	1.2477	7.0000e-005		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	2.0376	2.0376	1.9600e-003	0.0000	2.0866

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	0.1577					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6561					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	0.0376	0.0144	1.2477	7.0000e-005		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	2.0376	2.0376	1.9600e-003	0.0000	2.0866
Total	**0.8514**	**0.0144**	**1.2477**	**7.0000e-005**		**6.9100e-003**	**6.9100e-003**		**6.9100e-003**	**6.9100e-003**	**0.0000**	**2.0376**	**2.0376**	**1.9600e-003**	**0.0000**	**2.0866**

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	0.1577					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6561					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	0.0371	0.0143	1.2387	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0193	2.0193	1.9300e-003	0.0000	2.0676
Total	**0.8509**	**0.0143**	**1.2387**	**7.0000e-005**		**6.8500e-003**	**6.8500e-003**		**6.8500e-003**	**6.8500e-003**	**0.0000**	**2.0193**	**2.0193**	**1.9300e-003**	**0.0000**	**2.0676**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.7290	0.3578	8.6500e-003	39.2505
Unmitigated	27.7290	0.3578	8.6500e-003	39.2505

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.9459 / 6.90066	27.7290	0.3578	8.6500e-003	39.2505
Total		**27.7290**	**0.3578**	**8.6500e-003**	**39.2505**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.9459 / 6.90066	27.7290	0.3578	8.6500e-003	39.2505
Total		**27.7290**	**0.3578**	**8.6500e-003**	**39.2505**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.6871	0.9271	0.0000	38.8642
Unmitigated	15.6871	0.9271	0.0000	38.8642

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	77.28	15.6871	0.9271	0.0000	38.8642
Total		**15.6871**	**0.9271**	**0.0000**	**38.8642**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	77.28	15.6871	0.9271	0.0000	38.8642
Total		**15.6871**	**0.9271**	**0.0000**	**38.8642**

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

Fairview SPAL - BAU

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	168.00	Dwelling Unit	17.73	168,000.00	480

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2005
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

Project Characteristics -

Land Use - Project lot acreage = 17.73 acres

Construction Phase -

Off-road Equipment - BAU Run Only

Off-road Equipment - BAU Run Only

Off-road Equipment - BAU Run Only

Off-road Equipment - BAU Run Only

Off-road Equipment - BAU Run Only

Grading - BAU Run Only

Trips and VMT - BAU Run Only

Architectural Coating - BAU Run Only

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	113,400.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	340,200.00	0.00
tblConstructionPhase	PhaseEndDate	10/11/2004	9/13/2004
tblConstructionPhase	PhaseEndDate	8/16/2004	7/19/2004
tblConstructionPhase	PhaseEndDate	6/23/2003	5/26/2003
tblConstructionPhase	PhaseEndDate	9/13/2004	8/16/2004
tblConstructionPhase	PhaseEndDate	5/12/2003	4/14/2003
tblConstructionPhase	PhaseStartDate	9/14/2004	8/17/2004
tblConstructionPhase	PhaseStartDate	6/24/2003	5/27/2003
tblConstructionPhase	PhaseStartDate	5/13/2003	4/15/2003
tblConstructionPhase	PhaseStartDate	8/17/2004	7/20/2004
tblConstructionPhase	PhaseStartDate	4/29/2003	4/1/2003
tblLandUse	LotAcreage	10.50	17.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	VendorTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	121.00	0.00
tblTripsAndVMT	WorkerTripNumber	24.00	0.00
tblWoodstoves	NumberCatalytic	17.73	0.00
tblWoodstoves	NumberNoncatalytic	17.73	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					
2003													0.0000	0.0000	0.0000	0.0000
2004													0.0000	0.0000	0.0000	0.0000
Maximum													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2003													0.0000	0.0000	0.0000	0.0000
2004													0.0000	0.0000	0.0000	0.0000
Maximum													**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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)
		Highest		

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													74.8165	4.6600e-003	1.3300e-003	75.3305
Energy													355.3401	0.0128	4.4600e-003	356.9890
Mobile													2,537.4894	0.8466	0.0000	2,558.6554
Waste													15.6871	0.9271	0.0000	38.8642
Water													27.7290	0.3578	8.6500e-003	39.2505
Total													**3,011.0620**	**2.1489**	**0.0144**	**3,069.0896**

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													74.8165	4.6600e-003	1.3300e-003	75.3305
Energy													355.3401	0.0128	4.4600e-003	356.9890
Mobile													2,537.4894	0.8466	0.0000	2,558.6554
Waste													15.6871	0.9271	0.0000	38.8642
Water													27.7290	0.3578	8.6500e-003	39.2505
Total													**3,011.0620**	**2.1489**	**0.0144**	**3,069.0896**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2003	4/14/2003	5	10	
2	Grading	Grading	4/15/2003	5/26/2003	5	30	
3	Building Construction	Building Construction	5/27/2003	7/19/2004	5	300	
4	Paving	Paving	7/20/2004	8/16/2004	5	20	
5	Architectural Coating	Architectural Coating	8/17/2004	9/13/2004	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; 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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Grading		0			
Grading	Excavators	0	8.00	158	0.38
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Grading	Graders	0	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Paving Equipment	0	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Building Construction	Welders	0	8.00	46	0.45

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
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2003

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Grading - 2003

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Grading - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Grading - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2003

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													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2003

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2004

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													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2004

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													0.0000	0.0000	0.0000	0.0000
Paving													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Paving													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2004

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

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													0.0000	0.0000	0.0000	0.0000
Off-Road													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2004

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
Vendor													0.0000	0.0000	0.0000	0.0000
Worker													0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													2,537.4894	0.8466	0.0000	2,558.6554
Unmitigated													2,537.4894	0.8466	0.0000	2,558.6554

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,107.12	1,202.88	1019.76	3,223,022	3,223,022
Total	1,107.12	1,202.88	1,019.76	3,223,022	3,223,022

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 Low Rise	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392

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													228.6050	0.0103	2.1400e-003	229.5008
Electricity Unmitigated													228.6050	0.0103	2.1400e-003	229.5008
NaturalGas Mitigated													126.7351	2.4300e-003	2.3200e-003	127.4882
NaturalGas Unmitigated													126.7351	2.4300e-003	2.3200e-003	127.4882

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 Low Rise	2.37493e+006													126.7351	2.4300e-003	2.3200e-003	127.4882
Total														**126.7351**	**2.4300e-003**	**2.3200e-003**	**127.4882**

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 Low Rise	2.37493e+006													126.7351	2.4300e-003	2.3200e-003	127.4882
Total														**126.7351**	**2.4300e-003**	**2.3200e-003**	**127.4882**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	785823	228.6050	0.0103	2.1400e-003	229.5008
Total		**228.6050**	**0.0103**	**2.1400e-003**	**229.5008**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	785823	228.6050	0.0103	2.1400e-003	229.5008
Total		**228.6050**	**0.0103**	**2.1400e-003**	**229.5008**

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													74.8165	4.6600e-003	1.3300e-003	75.3305
Unmitigated													74.8165	4.6600e-003	1.3300e-003	75.3305

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													72.7788	1.3900e-003	1.3300e-003	73.2113
Landscaping													2.0376	3.2600e-003	0.0000	2.1192
Total													**74.8165**	**4.6500e-003**	**1.3300e-003**	**75.3305**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													72.7788	1.3900e-003	1.3300e-003	73.2113
Landscaping													2.0376	3.2600e-003	0.0000	2.1192
Total													**74.8165**	**4.6500e-003**	**1.3300e-003**	**75.3305**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.7290	0.3578	8.6500e-003	39.2505
Unmitigated	27.7290	0.3578	8.6500e-003	39.2505

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.9459 / 6.90066	27.7290	0.3578	8.6500e-003	39.2505
Total		**27.7290**	**0.3578**	**8.6500e-003**	**39.2505**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.9459 / 6.90066	27.7290	0.3578	8.6500e-003	39.2505
Total		**27.7290**	**0.3578**	**8.6500e-003**	**39.2505**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.6871	0.9271	0.0000	38.8642
Unmitigated	15.6871	0.9271	0.0000	38.8642

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	77.28	15.6871	0.9271	0.0000	38.8642
Total		**15.6871**	**0.9271**	**0.0000**	**38.8642**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	77.28	15.6871	0.9271	0.0000	38.8642
Total		**15.6871**	**0.9271**	**0.0000**	**38.8642**

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

BIOLOGICAL RESOURCE EVALUATION

Assessor's Parcel Map No. 412-010-58
County of Kern
Bakersfield, California

Prepared for:

Mr. Greg Palla
c/o Mr.Frank Tripicchio
1404 Calle Hermosa
Bakersfield, California 93309

Prepared by:

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8613 Beaver Drive
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661.421.0006

13 October 2021

EXECUTIVE SUMMARY

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for a proposed General Plan Amendment (GPA) and Zone Change (ZC) on 17.32 gross acres (7.01 hectares) of Assessor's Parcel Number (APN) 412-010-58, (project). The project is located north of the intersection of Fairview Road and about one-quarter (1/4) mile west of South Union Avenue within the City of Bakersfield, County of Kern southwest Bakersfield, County of Kern, California; Section 19, Township 30 South, Range 28 East, Mount Diablo Base and Meridian. The project is located within the geographic range of several federal-, and state-listed, threatened and/or endangered plant and animal taxa. Several non-listed, special-status species also have the potential to occur in the vicinity of the project.

The purpose of this report is to document biological resources identified during a reconnaissance-level field study of the project site and include potential biological resources identified during a literature review of the site and vicinity, identify potential impacts to biological resources resulting from the project, and to recommend avoidance and minimization measures for implementation prior to and during project activities. A literature review was conducted of the site and vicinity, prior to the field study, of the biological resources known to occur based on recorded, direct observation, or potentially occurring in the project impact area based on current or historical habitat conditions. During the field study, existing habitat conditions, direct observations and/or species sign was recorded to assess the potential for occurrence of special-status species. This report includes an evaluation of the potential for those special-status biological resources not observed during the field study, with the potential to occur on the property based on the habitat conditions observed.

The project is in southwest Bakersfield in an area historically farmed. Urban development has increased along the margins of Metropolitan Bakersfield in the past 50 years and has resulted in the conversion of farmland to residential and commercial properties. The project site consists of 17.32 acres of vacant and disturbed land used for equipment and materials storage associated with and single-family residence. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels.

The literature review and database queries yielded 21 special-status plant species and 32 special-status animal species as potentially occurring within the vicinity of the project site. Of these, five (05) plant species, and 16 animal species have federal-, and/or state-listed and are afforded protection under federal or state law.

The project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources. The project is within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). The field study was conducted in accordance with the Federal Endangered Species Act section 10(a)(1)(B) permit and California Endangered Species Act incidental take permit (ITP) issued by the California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081(b)(ITP No. 2081-2013-058-04), for the MBHCP. Evaluation of potential impacts to plant and animal species are required under federal and state regulation during a General Plan Amendment and Zone Change. California Environmental Quality Act (CEQA) Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project development.

Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

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INTRODUCTION

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for the proposed development of APN 412-010-58, within the City of Bakersfield. The report documents biological resources identified during fieldwork conducted on the project site and those identified through a literature search as potentially occurring based on known observations or historic habitat conditions. The report uses the information collected during the field study and literature search to evaluate potential impacts to biological resources, resulting from the project. The report is intended to assist in the analysis of the proposed project for a GPA and ZC.

Listed plant and animal species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Protection of other non-listed, special-status species is afforded under additional regulation including the Migratory Bird Treaty Act (MBTA). Pursuant to the California Environmental Quality Act (CEQA) impacts to non-listed, special-status species must be evaluated. Where necessary, the report recommends avoidance and minimization measures for implementation prior to and during project activities. The report is intended to provide technical information in support of a CEQA preliminary review. For the purposes of this report, potential impacts to the biological resources of the proposed project were evaluated in accordance with Appendix G of the *CEQA Guidelines* (2021).

PROJECT LEGAL DESCRIPTION

The project site consists of 17.32 gross acres (7.01 hectares) of Assessor's Parcel Number (APN) 412-010-58, (project). The project is located north of the intersection of Fairview Road and about on-quarter (1/4) mile west of South Union Avenue within the City of Bakersfield, County of Kern southwest Bakersfield, County of Kern, California; Section 19, Township 30 South, Range 28 East, Mount Diablo Base and Meridian. The project proposes a General Plan Amendment from LR (Low Density Residential) to HMR (High Medium Density Residential) and a corresponding Zone Change from R-1 (One-Family Dwelling) to R-2 (Limited Multiple-Family Dwelling).

PROJECT SETTING AND PHYSICAL DESCRIPTION

The project site is in the southern San Joaquin Valley; a broad, treeless plain in the rain shadow of the Inner Coast Ranges. The region's climate can be characterized as Mediterranean; with hot, dry summers and cool, moist winters. Summer high temperatures typically exceed 100 °Fahrenheit (°F); with an average of 110 days per year over 90 °F. Winter temperatures in the San Joaquin Valley are mild, with an average of only 16 days per year with frost (Twisselmann 1967).

Rainfall varies, increasing from west to east, with the west side of the valley receiving an average of around 4 inches (10 centimeters) per year and the east side averaging about 6 inches (15 centimeters) per year. Winter fog, called Tule fog, sometimes forms during the months of November, December, and January, supplementing the annual precipitation. Approximately 90% of the rainfall in the region occurs between November 1 and April 1. Drought cycles occur periodically, becoming severe enough that plant and animal populations can experience large fluctuations. The vegetation communities in the San Joaquin Valley are distinguishable from the Mojave Desert to the east due to Tule fog, higher humidity, and isolation from continental climatic influences by mountain ranges (Twisselmann 1967).

The general topography of the area slopes very subtly south with the project generally flat at about 370 feet (113 meters) above mean sea level. The project and vicinity have been historically farmed for decades. The project site is vacant and disturbed land used for equipment and materials storage associated with and single-family residence. The project site is surrounded by mixed use residential and commercial development with scattered oil production. No undisturbed, native, or recovering habitat is present on the project site or adjacent parcels.

METHODS

LITERATURE REVIEW

PruettBio conducted a literature review to identify known observations and potential for listed, or otherwise special-status, species to occur in the vicinity of the project site. A standard, 10-mile (16-kilometer) radius query was performed. Database records reviewed included:

- **United States Fish & Wildlife Service (USFWS) iPac:** The iPac report generates a list of federal-listed species and other resources under the jurisdiction of the USFWS, including designated critical habitat for listed species, National Wildlife Refuge lands, and Wetlands in the National Wetlands Inventory. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities.

- **USFWS National Wetlands Inventory:** The Wetlands Mapper is an online inventory integrating digital map data and other resources to provide current information regarding the status of national wetlands, riparian, and deepwater habitats.

- **United States Department of Agriculture (USDA) WebSoil Survey:** The report is an online database providing soil data produced by the National Cooperative Soil Survey, a joint effort of the USDA and other federal, state, and local agencies. The information drawn for the Soil Survey of Kern County, California, Northwestern Part was originally drawn from fieldwork completed in 1981 with soil names and descriptions approved in 1982.

- **California Natural Diversity Database (CNDDB-RareFind 5):** The CNDDB is a database of listed, or otherwise special-status, plant and animal species and sensitive communities maintained by the California Department of Fish and Wildlife (CDFW). The information queried for this report included a standard 10-mile radius of the project site.

- **California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants:** CNPS is a private, professional organization that maintains a database evaluating the current conservation status of California's rare, threatened, and endangered plant species. The information queried for this report included a standard 10-mile radius of the project site. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities based on known historic or current habitat features.

FIELD STUDY

A reconnaissance-level, biological field study was conducted by Steven P. Pruett on 16 August 2021. The entire project site was surveyed by walking the entire project site on transects spaced at no greater than 100-foot intervals. The field study conducted, allowed for 100% visual coverage of the project site. Field notes included observations of all plant and wildlife species observed. Direct observations and/or species sign was recorded to assess the potential for occurrence. Land cover types and general habitat conditions were recorded and photographed. Special-status species and habitat features, such as vegetation communities or ephemeral channels, were also recorded and photographed if observed.

Coordinates for important biological resource elements and direct observations of special-status species were recorded using a handheld geographic positioning system unit. If observed, San Joaquin kit fox (SJKF) dens were classified as defined by the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2015).

RESULTS

This section summarizes the results of the field study conducted on the project site and evaluates those results for the known or potential for occurrence of special-status species based on the literature review and database queries and pursuant to statutory regulation. Discussions are provided describing the existing habitat conditions including vegetation communities, land cover and current use; soils; special-status biological resources potentially occurring in the vicinity of the project site; the potential for jurisdictional resources including designated critical habitat and riparian/wetland/water resource features; the potential for wildlife migration corridors and nursery sites; and regional and local policy.

VEGETATION COMMUNITIES AND LAND COVER

The project site is located at the southeast edge of urban development of Metropolitan Bakersfield. Before conversion to farmland, the original vegetive communities of the project site were Non-native Grassland (Holland 42200) and Valley Saltbush Scrub (Holland 36220). No undisturbed, native, or recovering habitat is present on the project site, adjacent parcels, or general vicinity of the project. Urban development has increased along the margins of Metropolitan Bakersfield in the past 50 years and has resulted in the conversion of farmland to residential and commercial properties. The project site is vacant and disturbed land used for equipment and materials storage associated with and single-family residence.. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels. The potential for any native herbaceous species is extremely low due to ongoing disturbance. The project site is dominated by ruderal/invasive plant species.

SOILS

The USGS soil survey map describes the soil of the project site as 91.3% Unit 174, Kimberlina fine sandy loam. Unit 174 is mixed alluvium derived from igneous and sedimentary rock sources found on recent alluvial fans and flood plains. It is comprised of fine sandy loam and silt loam to a depth of about 71 inches. The depth to the restrictive feature is more than 80 inches and the available water storage in profile is listed as moderate (about 8.7 inches).

BIOLOGICAL RESOURCES

The literature review and database queries yielded 21 special-status plant species as potentially occurring within the vicinity of the project site. Thirty-two (32) animal species were identified as potentially occurring in the region of the project site. No evidence of any listed, or otherwise special-status plant or animal species was observed during the field study. The evaluation of special-status species that were found during the literature review with a potential to occur in the region are included in Appendix B.

Special-Status Plant Species

Special-status plant species considered in this evaluation include all plant species that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
    - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);
    - Species that may warrant consideration on the basis of local significance or recent biological information.
    - Some species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2008).

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Precipitation has been well below average to date, resulting in a poor year for annual plant species observations. Of the 21 special-status plant species returned during database queries for the project vicinity, five (05) species are either federally- or state-listed as threatened or endangered. Although CEQA requires consideration for impacts to locally significant plant species, no mitigation is legally required to compensate for impacts to non-listed plant species. No listed, or otherwise special-status plant species was observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status plant species, has been recorded as occurring within the project site. The potential for occurrence of any special-status plant species is unlikely due to decades of intensive farming.

Special-Status Animal Species

Special-status animal species considered in this evaluation include those that may occur in the project vicinity that have statutory protections. This includes federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. Species that are of special concern to the CDFW or the USFWS are included in this evaluation. Special-status bird species that are afforded protection under the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the project site are also evaluated. No evidence of any listed, or otherwise special-status animal species was observed during the field study

Designated Critical Habitat

The USFWS iPac report and USFWS Designated Critical Habitat Mapper lists no Designated Critical Habitat (USFWS 2020). Designated Critical Habitats closest to the project site include California condor (*Gymnogyps californianus*) approximately 22-miles south and Buena Vista Lake shrew (*Sorex ornatus relictus*) west of the project site. No suitable habitat for either species exists on the project site.

Jurisdictional Water Resource Features

Section 404 of the Federal Clean Water Act (CWA) regulates discharge of dredged and fill material into Waters of the United States. Wetlands are included under this jurisdiction. Proposed activities that may result in discharge of material into Waters of the U.S. require a permit review process by the U.S. Army Corps of Engineers as set forth under CWA section 404(b)(1). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will substantially modify a river, stream, or lake.

A search of the USFWS National Wetlands Inventory resulted in no riparian, wetlands, or other jurisdictional water features mapped on the project site (USFWS 2021). These results are consistent with the observed conditions within the survey area.

Special-Status Natural Communities

No special-status vegetation communities on the project site were identified by the USFWS iPac query, the CNDDB, or the CNPS Inventory (USFWS 2021, CDFW 2021, CNPS 2021). These results are consistent with the observed conditions within the survey area.

Wildlife Migration Corridors and Nursery Sites

Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. Corridor width requirements can vary based on the needs of the species utilizing them. Development of the project would not impact wildlife migration corridors or nursery sites.

Regional and Local Policies

The proposed, modified project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources. The project site is located within the MBHCP, CDFW, ITP boundaries. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES

This section provides an analysis of the impacts of the proposed, modified project following the standards of CEQA and provides recommendations that, when implemented, would reduce impacts to less-than-significant levels. It is important to note that potential take of any federal- or state-listed species from project activities would require contacting the appropriate wildlife agency (the USFWS and/or the CDFW). This contact may result in a requirement to obtain federal and/or state take authority for listed species as necessary.

The project site is located within the MBHCP ITP boundaries. Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

CEQA Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project. The project would create a significant impact to biological resources, based on the specifications in Appendix G of the CEQA Guidelines, if the following were to occur:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

3. Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4. 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;

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following analysis discusses potential impacts associated with the development of the project and provides recommendations where appropriate to further reduce potential impacts.

1. Would the project 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, by the CDFW, or the USFWS?

Direct and indirect impacts, in the form of "incidental take" of a threatened, endangered, or otherwise protected species, are not expected as a result of the development of the proposed project.

2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or the USFWS?

No riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service exists on the project site. No adverse effect will occur as a result of the development of the proposed project and no mitigation measures are recommended.

3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No features, identified in wetland categories, appear on the USFWS National Wetlands Inventory mapping (USFWS 2021) on the proposed, modified project site. No federally protected wetlands as defined by Section 404 of the Clean Water Act were identified during the field study conducted for the preparation of this report. No substantial adverse effect will occur as a result of the development of the project. No mitigation measures are recommended.

4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No migratory wildlife corridors were identified during the literature search or field study. The project will not interfere substantially with the movement of any native fish of wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. The following recommendations are provided for the general protection of bird species that may occur on the project site or vicinity in compliance with the MBTA:

If ground-disturbing activities are planned during the nesting season for migratory birds that may nest on or near the site (generally February 1 through August 31), nesting bird surveys are recommended prior to the commencement of ground disturbance for project activities. If nesting birds are present, no new

construction or ground disturbance should occur within an appropriate avoidance area for that species until young have fledged, unless otherwise approved and monitored by a qualified onsite biologist. Appropriate avoidance should be determined by a qualified biologist. In general, minimum avoidance zones for active nests should be implemented as follows: 1) ground or low-shrub nesting non-raptors – 300 feet (91 meters); 2) burrowing owl – as appropriate based on nest location, existing surrounding activity, and evaluation of owl behavior. Coordination with CDFW may be warranted. 3) Sensitive raptors (e.g., prairie falcon, golden eagle) – 0.5 miles (0.8 kilometers); 3) other raptors – 500 feet (152 meters).

5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

There are no biological resources on the site which are protected by local policies. Impacts from conflicts with local policies will not occur. No additional mitigation measures are recommended.

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project does not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No additional mitigation measures are recommended.

REFERENCES

Baldwin, B. G., Goldman, D. H., Keil, D. J., Patterson, R., Rosatti, T. J., & Wilken, D. H. (Eds.). (2012). *The Jepson manual: Vascular plants of California* (2nd ed.). Berkeley, CA: University of California Press. 1568 pp.

CDFG. (2009). *Protocols for surveying and evaluating impacts to special status native plant populations and natural communities*. Sacramento, CA: Author. 7 pp.

CDFG. (2012). *Staff report on burrowing owl mitigation*. Sacramento, CA: Author.

CNDDB. (2021). *Occurrence for U.S. Geologic Survey 7.5 minute quadrangles*. Sacramento, CA: CDFW

California Endangered Species Act of 1970, C.F.G.C § 2050 et seq. (2021).

California Environmental Quality Act of 1970, 13 P.R.C. § 21000 et seq. (2021).

California Environmental Quality Act of 1970 Guidelines, 14 C.C.R. § 15000 et seq. (2021).

California Native Plant Society (CNPS). (2021). Inventory of rare and endangered plants (Online edition, v8-01a) 7.5 minute quadrangles and corresponding plant species accounts. Sacramento, CA: Author.

California Native Plant Protection Act of 1977, C.F.G.C § 1904 et seq. (2021).

Clean Water Act of 1972, 33 U.S.C. § 1251 et seq. (2014).

Dunn, J. L., & Alderfer, J., (Eds.). (2008). *Field guide to the birds of western North America.* Washington, DC: National Geographic Society. 447 pp.

Ehrlich, P. R., Dobkin, D. S., & Wheye, D. (1988). *The birder's handbook: A field guide to the natural history of North American birds.* New York, NY: Simon and Schuster, Inc. 785 pp.

Federal Endangered Species Act of 1973, 16 U.S.C. § 1531 et seq. (2021).

Harris, J. H., & Stearns, D. M. (1991). Population density, census methods, habitat relationships, and home range of the San Joaquin antelope squirrel, 1988–89. *California Department of Fish and Game, Nongame Bird and Mammal Section, Report 91-02*. Oakland, CA: CDFG. Retrieved from http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2953

Jennings, M. R., Hayes, M. P., & Metro Washington Park Zoo. (1994). *Amphibian and reptile species of special concern in California* (Final report to the California Department of Fish and Game, Inland Fisheries Division, Contract No. 8023). Rancho Cordova, CA: CDFG. 255 pp.

Jepson Flora project (Eds.). (2015). Jepson eFlora. Retrieved from http://ucjeps.berkeley.edu/IJM.html

Luce, B. (2005). Eumops perotis: Western mastiff bat. In C. Chambers & M. Herder, (Eds.), *Species accounts*. Portland, OR: Western Bat Working Group. 5 pp. Retrieved from http://www.wbwg.org/speciesinfo/species_accounts/molossidae/eupe.pdf

Migratory Bird Treaty Act of 1918, 16 U.S.C. § 703 et seq. (2021).

Nafis, G. (2000–2020a). North American legless lizards - Anniella. *A Guide to the Amphibians and Reptiles of California*. Retrieved from http://www.californiaherps.com/lizards/pages/a.pulchra.html

Nafis, G. (2000–2020b). San Joaquin coachwhip – Coluber flagellum ruddocki. *A Guide to the Amphibians and Reptiles of California*. Retrieved from http://www.californiaherps.com/snakes/pages/c.f.ruddocki.html

Nafis, G. (2000–2020c). Blainville's horned lizard – Phrynosoma blainvillii. *A Guide to the Amphibians and Reptiles of California*. Retrieved from http://www.californiaherps.com/lizards/pages/p.blainvillii.html

Native Fish and Wildlife Endangered Species, 32 Fed. Reg. 4001 (Mar. 11, 1967). Retrieved from http://ecos.fws.gov/docs/federal_register/fr18.pdf

Papenfuss, T. J., Parham, J. F. (2013). Four new species of California legless lizards (Anniella). *Breviora 536*, 1–17. Retrieved from http://mczbase.mcz.harvard.edu/specimen_images/publications/Breviora_536.pdf

Porter-Cologne Water Quality Control Act, C.W.A. § Section 13000 et seq. (2021).

Reid, F. A. (2006). *Mammals of North America (Peterson field guide)*. Boston, MA: Houghton Mifflin Company. 579 pp.

Sherwin, R. (2005). Antrozous pallidus: Pallid bat. In D. A. Rambaldini, (Eds.). *Species accounts*. Portland, OR: Western Bat Working Group. 5 pp. Retrieved from http://www.wbwg.org/speciesinfo/species_accounts/vespertilonidae/anpa.pdf

Shuford, W. D., Gardali, T., (with Comrack, L.A.). (Eds.). (2008). *California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California*. Sacramento, CA: CDFG.

Stebbins, R. C. (1985). *A field guide to western reptiles and amphibians (Peterson field guide)*, (2nd ed.). Boston, MA: Houghton Mifflin Company. 336 pp.

Stebbins, R. C. (2003). *A field guide to western reptiles and amphibians (Peterson field guide)*, (3rd ed.). Boston, MA: Houghton Mifflin Company. 533 pp.

Twisselmann, E. C. (1967). A flora of Kern County, California. The Wasmann Journal of Biology, *25*, 1–395.

Uptain, C. E. (1989). *Survey for Tipton kangaroo rats (Dipodomys nitratoides nitratoides) on the proposed Delano prison site, Kern County, California* (Prepared for the California Department of Corrections). Sacramento, CA: 11 pp.

U.S. Fish and Wildlife Service (USFWS). (1996). *California condor recovery plan, third revision*. Portland, OR: Author. 62 pp.

USFWS. (1998). *Recovery plan for upland species of the San Joaquin Valley, California*. Portland, OR: Author. Retrieved from http://ecos.fws.gov/docs/recovery_plan/980930a.pdf

USFWS. (2011). *U.S. Fish and Wildlife Service standardized recommendations for protection of the endangered San Joaquin kit fox prior to or during ground disturbance*. Sacramento, CA: Author. 9 pp. Retrieved from http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

USFWS. (2013). *California condor recovery program population size and distribution, December 31, 2013 overview page*. Retrieved from http://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_1/Hopper_Mountain_Complex/Hopper_Mountain/Sections/News/News_Items/PDFs/2013-12-31.pdf

USFWS. (2021a). *Federal endangered and threatened species that may occur in or may be affected by project in the counties and/or USGS 7 ½ minute quads you requested: quadrangle* [August]. Author. Retrieved from http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm

USFWS. (2021b). *National Wetlands Inventory Website* [August]. Washington, D.C.: Author. Retrieved from http://www.fws.gov/wetlands/

Williams, D. F. (1980). *Distribution and population status of the San Joaquin antelope squirrel and giant kangaroo rat*. (Nongame Wildlife Investigation Final Report E-W-4). Sacramento, CA: CDFG. 48 pp.

Williams, D. F. (1986). *Mammalian species of special concern in California* (Prepared for the State of California, The Resources Agency Department of Fish and Game). Turlock, CA: CSUS. 112 pp. Retrieved from http://esrp.csustan.edu/resources/publications/pdf/mammalian_scc_ca_esrp5.pdf

Zeiner, D. C., Laudenslayer, W. F., Jr., Mayer, K. E., & White, M., (Eds.). (1990a). *California's wildlife volume II birds* (California Statewide Wildlife Habitat Relationships System). Sacramento, CA: CDFG.

Zeiner, D. C., Laudenslayer, W. F., Jr., Mayer, K. E., & White, M., (Eds.). (1990b). *California's wildlife volume III mammals* (California Statewide Wildlife Habitat Relationships System). Sacramento, CA: CDFG.

APPENDIX A

PROJECT VICINTY AND SITE

Figure A-1. Aerial photograph of the project and vicinity (Google Earth Pro 2021).

Figure A-2. Aerial photograph of the project site (Google Earth Pro 2021).

Figure A-3. Soil map of the project site (USDA, Natural Resources Conservation Service 2021).

Figure A-3. Photograph of the project site taken from the northeast corner facing southwest (16Aug21).

Figure A-4. Photograph of the project site taken from the northwest corner facing southeast (16Aug21).

Figure A-5. Photograph of the project site taken from the southwest corner facing northeast (16Aug21).

Figure A-6. Photograph of the identified SJKF known den (16Aug21).

APPENDIX B

SPECIAL-STATUS PLANT AND ANIMAL EVALUATION

Table B-1: Special-status Plants That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Astragalus hornii var. *hornii* Horn's milk vetch	S/-/1B.1	Annual herb in the Fabaceae found in meadows and seeps and on playas and lake margins on alkaline soils between 197 and 2,789 feet (60–850 meters) in elevation. Known from occurrences in the Southern San Joaquin Valley, the Tehachapi Mountains and the Western Transverse Ranges in Kern, Los Angeles, and San Bernardino Counties.	May to October	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Atriplex cordulata var. *cordulata* Heartscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, meadows and weeps, and valley and foothill grasslands in sandy, saline or alkaline soils below 1,837 feet (560 meters) in elevation. Known to occur in the Great Central Valley from Kern County north to Southern Butte County.	April to October	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Atriplex coronata var. *vallicola* Lost Hills crownscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in valley and foothill grasslands, playas, and vernal pools on alkaline soils between 456 and 1,640 feet (139–500 meters) in elevation.	April to August	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Atriplex tularensis Bakersfield smallscale	-/E/1A	Annual herb in the Chenopodiaceae found in valley and foothill grasslands, between 131 and 328 feet (40–100 meters) in elevation. Known to occur in the San Joaquin Valley from Northwestern Kern County north to Southern Merced County and in the Sacramento Valley in Southern Butte County.	June to August (occasionally October)	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Calochortus striatus Alkali mariposa lily	S/-/1B.2	Bulbiferous perennial herb in the Liliaceae found in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands on sandy often granitic, sometimes serpentine soils, between 1,296 and 3,281 feet (395–1,000 meters). Known to occur in the Outer South Coast Ranges in Santa Barbara and San Luis Obispo Counties.	April to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Caulanthus californicus California jewelflower	E/E/1B.1	Annual herb in the Brassicaceae family found on serpentinite soils in closed-cone coniferous forest, chaparral, and cismontane woodland between 1,542 and 4,003 feet (470–1,220 meters) in elevation.	May to July	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	S/-/1B.1	Hemiparasitic annual herb in the Orobanchaceae family found on coastal dunes and coastal saltwater marshes and swamps below 98 feet (30 meters) in elevation.	May to October	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Delphinium recurvatum Recurved larkspur	S/-/1B.2	Perennial herb in the Ranunculaceae family found in chaparral, cismontane woodland, and pinyon and juniper woodland on rocky, carbonate soils between 984 and 4,396 feet (300–1,340 meters) in elevation. Known to occur in Kern and Tulare Counties.	April to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Diplacus pictus *Calico monkeyflower*	-/-/1B.2	Annual herb in the Phrymaceae family found in upland and cismontane woodland on granitic soils between 328 and 4690 feet (100-1430 meters). Known to occur in Kern and Tulare Counties.	March to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Eremalche parryi ssp. *kernensis* Kern mallow	E/-/1B.1	Perennial, stoloniferous herb in the Onagraceae family found in meadows ad seeps, and subalpine coniferous forest in mesic soils between 6,562 and 10,236 feet (2,000–3,120 meters) in elevation. Known to occur in Alpine, El Dorado, Fresno, Madera, Mono, Nevada, Sierra, and Tuolumne Counties.	July to August	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Eriastrum hooveri Hoover's eriastrum	D/-/4.2	Annual herb in the Polemoniaceae family that occurs between 164 and 3,002 feet (50–915 meters) in elevation in pinyon-juniper woodland, and valley and foothill grasslands, occasionally on gravelly soils. Known to occur in the Southern San Joaquin Valley in Kern and Fresno Counties and on the Carrizo Plain in San Luis Obispo County.	March to July	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Eschscholzia lemmonii ssp. *kernensis* Tejon poppy	-/-/1B.1	Annual herb in the Papaveraceae family found in chaparral, cismontane woodland and valley and foothill grassland on serpentinite clay soil between 656 and 4,921 feet (200–1,500 meters) in elevation. Known to occur in Fresno, Imperial, Mendocino, Monterey, San Benito, and San Luis Obispo Counties.	March to June	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Imperata brevifolia *California satintail*	-/-/2B.1	Perennial herb in the Poaceae family found in chaparral, coastal sage scrub, creosote bush scrub and wetland-riparian communities. Known to occur in Butte, Lake, Fresno, Tulare, Inyo, Kern, Santa Barbara, Ventura, San Bernadino, Orange, Riverside, San Diego and Imperial Counties.	September to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Lasthenia glabrata ssp. Coulteri *Coulter's goldfields*	-/-/1B.1	Annual herb in the Asteraceae family found in vernal pools and saline places at elevations below 1000m. Known to occur in Kern and San Joaquin Counties	February to June	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Layia leucopappa *Comanche Point layia*	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, and valley and foothill grassland between 328 and 1,148 feet (100–350 meters) in elevation. Known to occur in Kern County.	March to April	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Monolopia congdonii San Joaquin woolly-threads	E/-/1B.2	Perennial, rhizomatous herb in the Ericaceae family found in broadleafed upland forest and North Coast coniferous forest between 328 and 3,609 feet (100–1,100 meters) in elevation. Known to occur in Del Norte, Fresno, Humboldt and Siskiyou Counties.	May to August	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Navarretia setiloba *Piute Mountains navarretia*	S/-/1B.1	Herbaceous annual in the Polemoniaceae family found on clay or gravelly loam soils in cismontane woodland, pinyon and juniper woodland, and valley and foothill grasslands from 1,001 and 6,890 feet (305–2,100 meters) in elevation. Known from occurrences in the Southern Sierra Nevada in Kern and Tulare Counties.	April to June	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Opuntia basilaris var. *treleasei* Bakersfield cactus	E/E/1B.1	Perennial stem succulent in the Cactaceae family found in chenopod scrub, cismontane woodland, and valley and foothill grasslands between 394 and 1,804 feet (120–550 meters) in elevation. Known to occur in the Southeast San Joaquin Valley and Southern Sierra Nevada Foothills in Kern County.	April to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Puccinellia simplex *California alkali grass*	-/-/1B.1	Annual herb in the Poaceae family found in meadows and seeps between 2,297 and 3,281 feet (700–1,000 meters) in elevation. Known to occur in Kern and San Bernardino Counties.	April to May	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.
Stylocline citroleum Oil neststraw	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Stylocline masonii Mason's neststraw	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Not Expected**. Decades of intensive impacts have resulted in vegetation limited to invasive/ruderal species.

STATUS: Federal and State Listing Code
- D Delisted
- E Federally or State-listed Endangered
- T Federally or State-listed Threatened

CNPS
- 1A Plants presumed extirpated in California, and either rare or extinct elsewhere
- 1B.1 Plants considered rare, threatened, or endangered in California and elsewhere; seriously threatened in California
- 1B.2 Plants considered rare, threatened, or endangered in California and elsewhere; fairly threatened in California
- 2B.1 Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
- 4.2 Plants of limited distribution in California; fairly threatened in California

Table B-2: Special-status Animals That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Invertebrates			
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	T/-	Central Valley riparian forest; nearly always found on or close to its host plant, elderberry (*Sambucus* species).	**Not Present.** No suitable habitat for the species. No host plants present on the project or vicinity.
Branchinect lynchi Vernal pool fairy shrimp	T/-	Found in vernal pools throughout California. Exist as cysts during the dry season and reproduce when pools are filled with water again.	**Not Present**. No suitable habitat present.
Fishes			
Hypomesus transpacificus Delta smelt	T/-	Found only in the low-salinity and freshwater habitats of the Sacramento-San Joaquin Estuary. Historically, it was one of the most common pelagic fish in the estuary	**Not Present.** No suitable habitat present.
Amphibians			
Rana draytonii California red-legged frog	T/-	Found in habitat characterized by dense, shrubby, riparian vegetation and associated still, or slow-moving water that is at least 2.3 feet deep. The arroyo willow (*Salix lasiolepis*) cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.) provide good habitat.	**Not Present.** No suitable habitat present.
Spea hammondii Western spadefoot toad	-/ CSC	Central valley and adjacent foothills, Coast Ranges from Point Conception south to the Mexico border; valley-foothill grasslands and valley-foothill hardwood, shallow temporary pools used for breeding, below 4,472 feet (1,363 meters).	**Not Observed/Not Expected**. No known records in the vicinity of the project. No suitable habitat present on the project. Marginal habitat is present in the project vicinity.
Reptiles			
Anniella spp. California legless lizard	-/CSC	Found in coastal dunes, chaparral, pine-oak woodlands, desert scrub, and sandy washes in warm moist loose soils, below 5,085 feet (1550 meters).	**Not Observed/Not Expected**. Suitable habitat absent from the site. Potential habitat in the project vicinity.
Arizona elegans occidentalis California glossy snake	-/CSC	Found in low elevation scrub, grasslands and chaparral habitats.	**Not Present**. No suitable habitat present.
Emys marmorata *Western pond turtle*	-/CSC	Completely aquatic requiring calm waters such as pools or streams with vegetation banks or logs for basking. Will utilize upland habitat up to about 0.5 km from water.	**Not Present.** No suitable habitat present.
Gambelia sila Blunt-nosed leopard lizard (BNLL)	E/E,SFP	Found only in the San Joaquin Valley, adjacent Carrizo Plain, Elkhorn Plain, Cuyama Valley, and Panoche Valley; inhabits sparsely vegetated plains, lower canyon slopes, on valley floors, and washes; open grassland, saltbush scrub, and alkali sink are more common habitat types.	**Not Present.** No suitable habitat present.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Masticophis flagellum ruddocki San Joaquin coachwhip	-/CSC	Found in the San Joaquin Valley in open, dry habitats. Associated with valley grassland and saltbush scrub habitats containing small mammal burrows which are used for refugia and oviposition sites.	**Not Present**. No suitable habitat present.
Phrynosoma blainvillii Coast horned lizard	-/CSC	Inhabits valley-foothill hardwood, coniferous and riparian, as well as pine-cypress, juniper, and annual grasslands, in Sierra Nevada below 3,937 feet (1,200 meters) and in mountains of Southern California and into the adjacent valleys.	**Not Present**. No suitable habitat present.
Thamnophis gigas Giant gartersnake	T/T	Found in areas of freshwater marshes or low-gradient streams. Can also be found in human-made habitats, such as drainage canals and irrigation ditches, especially those associated with rice farming.	**Not Present**. No suitable habitat present. Species believed to be extirpated from Kern County.
Birds			
Agelaius tricolor Tricolored blackbird	S/CSC	Forages in grasslands, wetlands, rice fields, croplands, and weedy uplands dominated by mustards and thistles, etc.; breeds in marshes containing heavy growth of bulrushes, cattails, and blackberries; found throughout the Central Valley.	**Not Present/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting or habitat on the site. Potential for marginal foraging habitat in farmlands in the vicinity of the project.
Athene cunicularia Burrowing owl	-/CSC	Inhabits dry, open grasslands, rolling hills, desert floors, prairies, savannas, agricultural land, and other areas of open, bare ground. These owls will also inhabit open areas near human habitation, such as airports, golf courses, shoulders of roads, railroad embankments, and the banks of irrigation ditches and reservoirs.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. Suitable habitat for nesting and foraging in the vicinity of the project.
Buteo swainsoni Swainson's hawk	-/T	Riparian and sometimes large isolated trees used for nesting; grasslands and agricultural lands used for foraging; in California, breeds primarily in the Sacramento Valley, with occasional nesting to the south through Kern County; migrate through the Central and San Joaquin Valleys to their wintering grounds in South America.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. Few suitable nesting sites on the project. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are uncommon in Kern County.
Charadrius alexandrinus nivosus Western snowy plover	T/-	Nests, feeds, and takes cover on sandy or gravelly beaches along the coast, on estuarine salt ponds, alkali lakes, and at the Salton Sea. On the Pacific coast, it nests on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, and river bars.	**Not Present**. No suitable wintering habitat or foraging habitat exists on the project.
Circus cyaneus Northern harrier	-/CSC	Widespread breeding resident, other than in the Central Valley, most lowland birds are winter migrants; ground nester that forages and nests in a wide variety of open	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		habitats with low perches such as marshes, fields, and other treeless areas.	Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	T/E	Nests in walnut and almond orchards in California, natural nesting habitat is in cottonwood-tree willow riparian forest. Known populations of breeding western yellow-billed cuckoo are several disjunct locations in California, Arizona, and western New Mexico.	**Not Present**. No suitable nesting habitat exists on the project for this species. The site represents poor foraging habitat.
Elanus leucurus White tailed kite	-/SFP	Associated habitats include open grasslands, savannahs, agriculture, wetlands, oak woodland and riparian areas with associated open space.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are frequently observed moving through Kern County during the migratory period. Swainson's hawk are uncommon nesters in Kern County.
Empidonax traillii Willow Flycatcher	-/E	Nests and forages in riparian habitats with dense vegetation characterized by willows, buttonbush and coyote brush, with a scattered overstory of cottonwood. Have also been known to nest in thickets dominated by tamarisk.	**Not Present**. No suitable nesting or foraging habitat present.
Lanius ludovicianus Loggerhead shrike	-/CSC	Common resident and winter visitor in lowlands and foothills throughout California; species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches; nests on stable branches in densely-foliaged shrubs or trees, usually well-concealed.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. No suitable nesting habitat present. Loggerhead shrike occur throughout the southern San Joaquin Valley and undoubtedly forage in the project vicinity.
Mammals			
Ammospermophilus nelsoni San Joaquin antelope squirrel	-/T	Found in grasslands or open shrublands; formerly more extensive, current range includes southwestern portion of the San Joaquin Valley and in adjacent valleys to the west.	**Not Present**. Beyond the current published range of the species.
Dipodomys ingens Giant kangaroo rat	E/E	Western side of the San Joaquin Valley, including the Carrizo Plain and the Panoche Valley; grassland and shrub-land habitats with sparse vegetative cover and soils that are well-drained, fine sandy loams with gentle slopes.	**Not Present**. Beyond the current published range of the species.
Dipodomys nitratoides brevinasus Short-nosed kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities in level to near-level terrain with	**Not Present**. Beyond the published range of the species.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	
Dipodomys nitratoides nitratoides Tipton kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities in level to near-level terrain with alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	**Not Present**. No suitable habitat present. Not within the southwest focus area of the MBHCP.
Eumops perotis californicus Greater western mastiff bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	**No Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
Lasiurus cinereus Hoary bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	**No Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
Onychomys torridus tularensis Tulare grasshopper mouse	-/CSC	Found in valley grasslands habitats, blue oak savanna, desert associations dominated by annual grasses and California ephedra, alkali sink scrub, saltbush scrub, and upper Sonoran shrub associations, dominated by ephedra.	**Not Observed/Not Expected**. No suitable habitat present.
Perognathus inornatus inornatus San Joaquin pocket mouse	S/-	Found in west-central California in the Upper Sacramento Valley, Tehama County, southward through the San Joaquin and Salinas valleys and contiguous areas to the Mojave Desert in Los Angeles, Kern and extreme western San Bernardino counties. Inhabits dry, open, grassy or weedy areas and annual grasslands, savannas, and desert-scrub associations with sandy washes or finely textured soils.	**Not Observed/Not Expected**. No suitable habitat present.
Sorex ornatus relictus Buena Vista Lake shrew	E/CSC	Formerly occupied marshlands of the San Joaquin Valley and the Tulare Basin. Its range has become much restricted due to the loss of lakes and sloughs in the area. It has been recorded from the Kern Lake Preserve area and the Kern National Wildlife Refuge. Current distribution is unknown but likely to be very restricted due to the loss of habitat.	**Not Present**. No suitable habitat present.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Taxidea taxus American badger	-/CSC	Uncommon resident found through California; in less disturbed grassland and shrubland habitats in San Joaquin Valley.	**Not Present** No suitable habitat present.
Vulpes macrotis mutica San Joaquin kit fox (SJKF)	E/T	Found in valley saltbush scrub, valley sink scrub, Interior Coast Range saltbush scrub, upper Sonoran sub-shrub scrub, non-native grassland, and valley sacaton grassland in the Central Valley and adjacent foothills and valleys, infrequently to the outer Coast Ranges; generally not found in densely wooded areas, wetland areas, or areas subject to frequent periodic flooding.	**Not Observed/ Probability of Occurrence in the Project Vicinity**. No SJKF potential, known, or natal dens were observed on the project site. SJKF are highly vagile and occur throughout metropolitan Bakersfield.

STATUS:

Federal

S Listed as a BLM Sensitive Species
D Delisted
E Listed as Endangered
PT Proposed as Threatened
T Listed as Threatened
C Candidate for Endangered Status

State

CSC California Department of Fish and Wildlife Designated Species of Special Concern
D Delisted
E Listed as Endangered
SFP California Department of Fish and Wildlife Designated Fully Protected
T Listed as Threatened

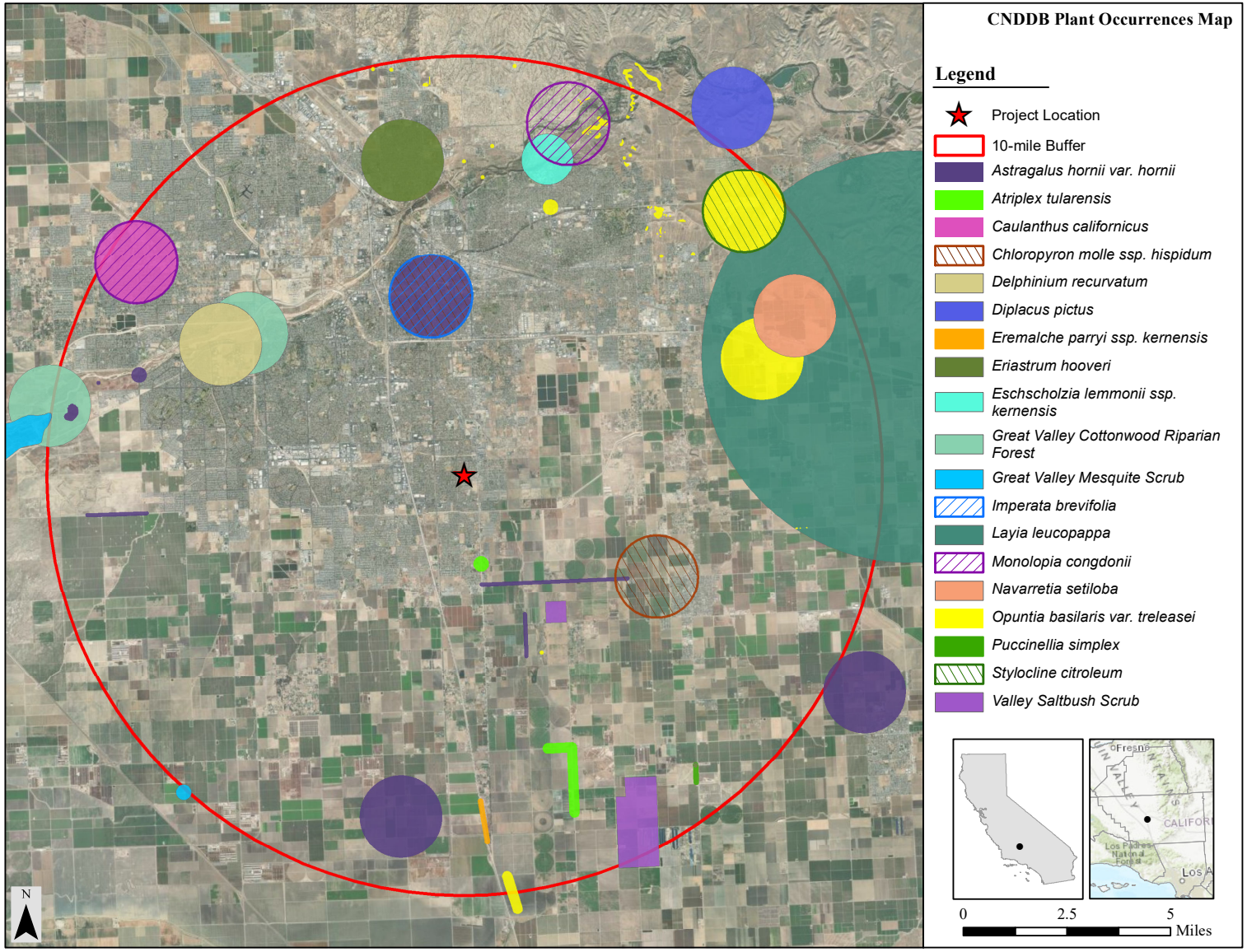

Figure B-1. CNDDB special-status plant species occurrences within a 10-mile radius of the project (CDFW 2021).

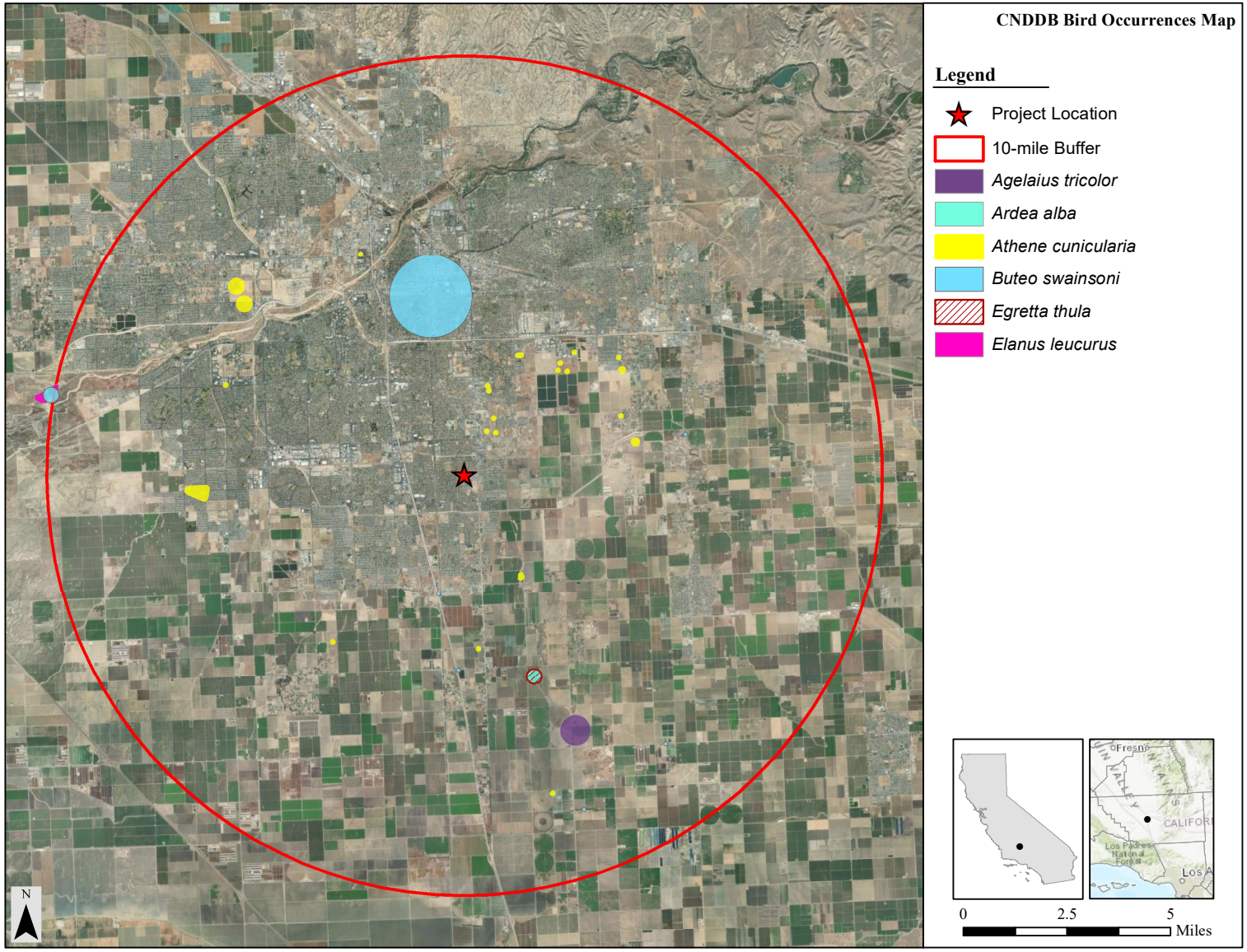

Figure B-2. CNDDB special-status bird species occurrences within a 10-mile radius of the project (CDFW 2021).

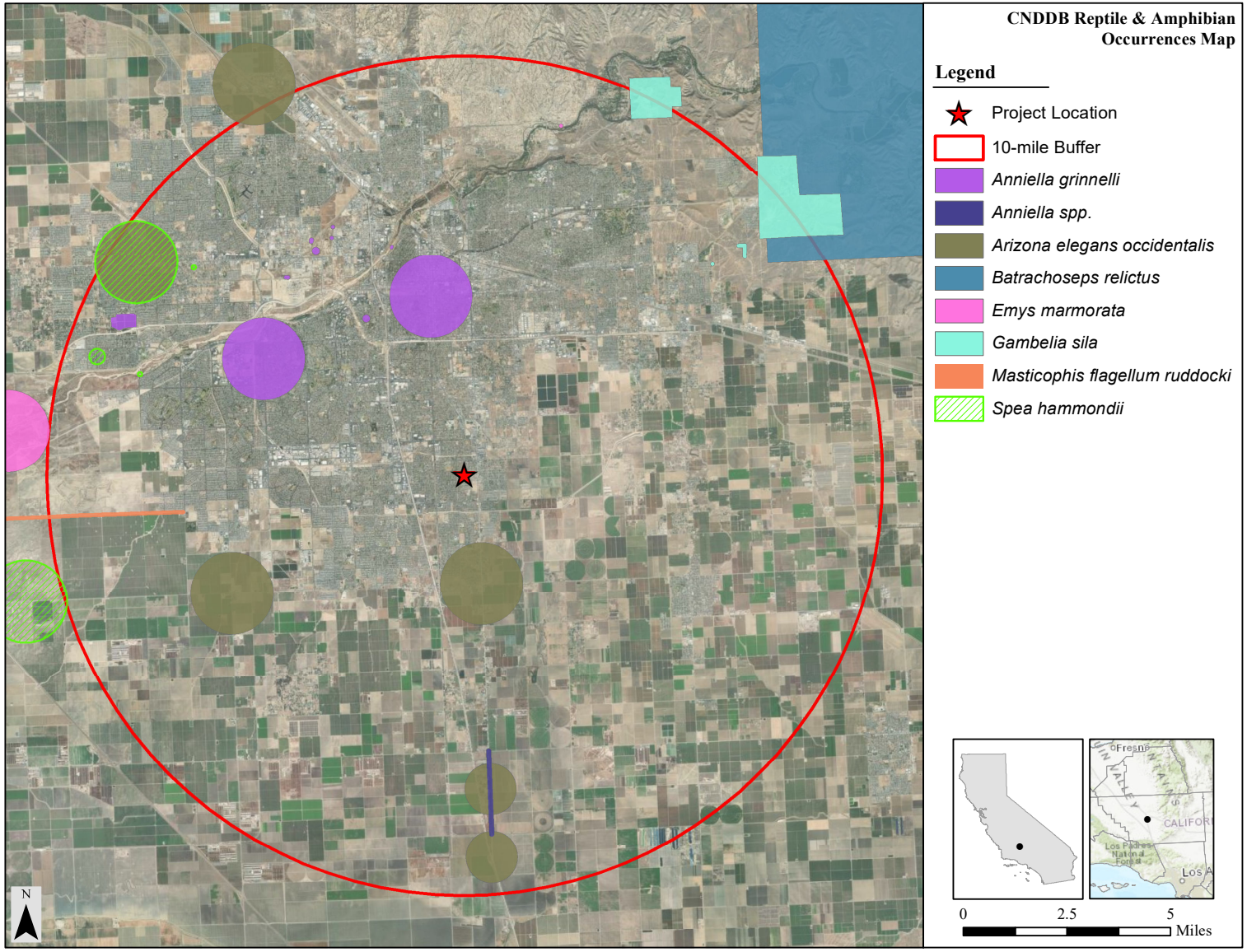

Figure B-3. CNDDB special-status amphibian and reptile species occurrences within a 10-mile radius of the project (CDFW 2021).

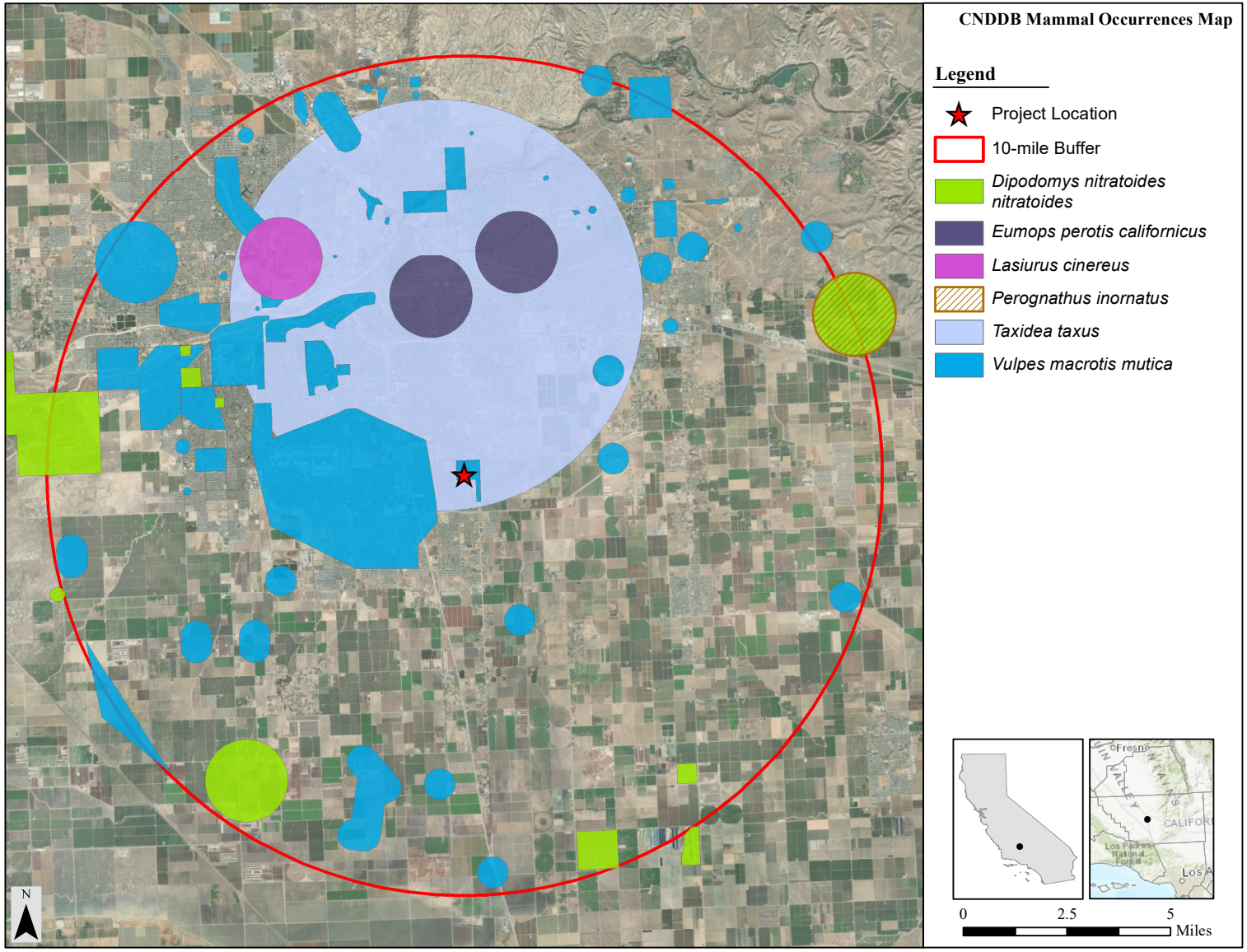

Figure B-4. CNDDB special-status mammal species occurrences within a 10-mile radius of the project (CDFW 2021).

APPENDIX C

PLANTS AND ANIMALS OBSERVED ON THE PROJECT

FIELD STUDY CONDUCTED
16 August 2021

Table C-1. Vascular plant species observed during the field study conducted on the project site.

Scientific Name	**Common Name**
Brassicaceae	
Capsella bursa	Sheperd's purse
Sisymbrium irio	London rockets
Chenopodiaceae	
Salsola tragus	Russian thistle
Euphorbiaceae	
Euphorbia sp.	Common spurge
Geraniaceae	
Erodium cicutarium	Redstem filaree
Malvaceae	
Malva parviflora	Cheeseweed
Meliaceae	
Melia azedarach	Chinaberry tree
Poaceae	
Bromus madritensis ssp. *rubens*	Red brome
Cynodon dactylon	Bermudagrass
Cyperus rotundus	Nut sedge
Poa annua	Annual bluegrass
Zygophyllaceae	
Tribulus terrestris	Punctervine

Table C-2. Vertebrate animal species observed during the field study conducted on the project site.

Scientific Name	**Common Name**
Birds	
Corvus corax	Common raven
Haemorhous mexicanus	House finch
Zenaida macroura	Mourning dove
Mammals	
Otospermophilus beecheyi	California ground squirrel

A
PHASE I CULTURAL RESOURCE SURVEY,
FOR A ZONE CHANGE,
FAIRVIEW AVENUE,
CITY OF BAKERSFIELD, CALIFORNIA

Submitted to:
McIntosh and Associates
2001 Wheelan Court
Bakersfield, California 93309

Keywords:
Gosford 7.5' Quadrangle,
City of Bakersfield, Kern County,
California Environmental Quality Act

Submitted by:
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309

Author:
Scott M. Hudlow

October 2021

Management Summary

At the request of McIntosh and Associates, a Phase I Cultural Resource Survey was conducted on exactly 17.73 acres. The property lies on the north side of Fairview Avenue, east of Monitor Street in the City of Bakersfield, California. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the 17.73-acre site and a cultural resource record search.

Two cultural resources were identified, M-1 and M-2. M-1 is a historic agricultural ditch that was found along the northern edge of the property. M-2 is a light ceramic scatter that was identified at the opposite edge of the property along Fairview Avenue. Two house trees are also present. Neither of these sites are eligible for nomination to the California Register of Historic Resources under Criteria 1-4. These two sites are not associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1). These two sites are not associated with the lives of persons important to local, California or national history (Criterion 2). These two sites do not embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values (Criterion 3). Lastly, these two sites will not yield, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).

No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

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List of Figures

1.0 Introduction

At the request of McIntosh and Associates, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey on exactly 17.73 acres, for a proposed zone change from agricultural to multi-family residential. The site lies on the north side of Fairview Avenue, east of Monitor Street, in the City of Bakersfield, California. This project is being undertaken in accordance with the California Environmental Quality Act (CEQA). The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

2.0 Survey Location

The project area is in the City of Bakersfield. The parcel is in the E ½ of the SW ¼ of the NW ¼ of Section 19, T.30S., R.28E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Gosford 7.5-minute quadrangle map (Figure 1). The property for the proposed zone change lies on the north side of Fairview Avenue, east of Monitor Street, City of Bakersfield, California.

3.0 Record Search

A record search of the project area and the environs within one-half mile was conducted at the Southern San Joaquin Archaeological Information Center. Scott M. Hudlow conducted the record search, RS# 21-335 on September 20, 2021. The record search revealed that six cultural resource surveys have been conducted within one-half mile radius of the project area. No previous surveys have been conducted within the current project area. One non-archaeological cultural resource has been recorded within one half-mile of the current project area, a historic road. No cultural resources have been recorded within one half-mile of the current project area.

4.0 Environmental Background

The project area is located at an elevation of 365 feet above mean sea level in the Great Central Valley, which is composed of two valleys-- the Sacramento Valley and the San Joaquin Valley. The project area is located in the southwestern portion of the southern San Joaquin Valley, south of the Kern River. The former agricultural lot is denuded of native vegetation. Two presumed house trees are present along the south edge of the property, and wind-blown trash and weeds are present along the northern edge of the property (Figures 2 and 3).

5.0 Prehistoric Archaeological Context

Limited archaeological research has been conducted in the southern San Joaquin Valley. Consensus on a generally agreed upon regional cultural chronology has yet to be developed. Most cultural sequences can be

summarized into several distinct time periods: Early, Middle, and Late. Sequences differ in their inclusion of various "horizons," "technologies," or "stages."

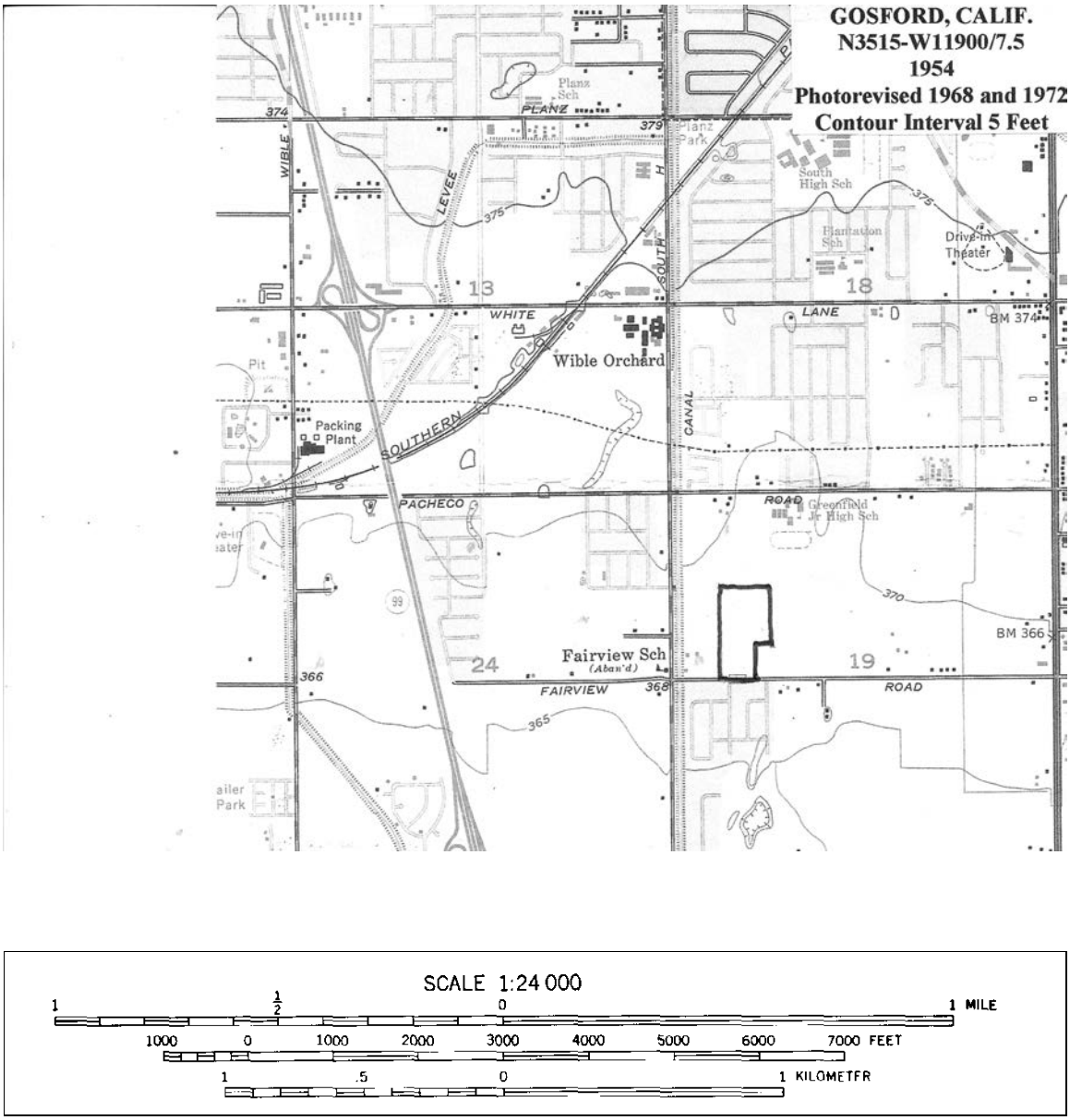

Figure 1
Project Area Location Map

A prehistoric archaeological summary of the southern San Joaquin Valley is available in Moratto (Moratto 1984).

Despite the preoccupation with chronological issues in most of the previous research, most suggested chronological sequences are borrowed from other regions with minor modifications based on sparse local data.

The following chronology is based on Parr and Osborne's Paleo-Indian, Proto-Archaic, Archaic, Post-Archaic periods (Parr and Osborne 1992:44-47). Most existing chronologies focus on stylistic changes of time-sensitive artifacts such as projectile points and beads rather than addressing the socioeconomic factors, which produced the myriad variations. In doing so, these attempts have encountered similar difficulties. These cultural changes are implied as environmentally determined, rather than economically driven.

Paleo-Indians, whom roamed the region approximately 12,000 years ago, were highly mobile individuals. Their subsistence is assumed to have been primarily big game, which was more plentiful 12,000 years ago than in the late twentieth century. However, in the Great Basin and California, Paleo people were also foragers who exploited a wide range of resources. Berries, seeds, and small game were also consumed. Their technology was portable, including manos (Parr and Osborne 1992:44). The paleo period is characterized by fluted Clovis and Folsom points, which have been identified throughout North America. The Tulare Lake region in Kings County has yielded several Paleo-Indian sites, which have included fluted points, scrapers, chipped crescents, and Lake Mojave-type points (Morratto 1984:81-2).

The Proto-Archaic period, which dates from approximately 11,000 to 8,000 years ago, was characterized by a reduction in mobility and conversely an increase in sedentism. This period is classified as the Western Pluvial Lake Tradition or the Proto-Archaic, of which the San Dieguito complex is a major aspect (Moratto 1984: 90-99; Warren 1967). An archaeological site along Buena Vista Lake in southwestern Kern County displays a similar assemblage to the San Dieguito type-site. Claude Warren proposes that a majority of Proto-Archaic southern California could be culturally classified as the San Dieguito Complex (Warren 1967). The Buena Vista Lake site yielded manos, millingstones, large stemmed and foliate points, a mortar, and red ochre. During this period, subsistence patterns began to change. Hunting focused on smaller game and plant collecting became more integral. Large stemmed, lancelote (foliate) projectile points represent lithic technology. Millingstones become more prevalent. The increased sedentism possibly began to create regional stylistic and cultural differences not evident in the paleo period.

The Archaic period persisted in California for the next 4000 years. In 1959, Warren and McKusiak proposed a three-phase chronological sequence based on a small sample of burial data for the Archaic period (Moratto 1984:189; Parr

and Osborne 1992:47). It is distinguished by increased sedentism and extensive seed and plant exploitation. Millingstones, shaped through use, were abundant.

Figure 2
Project Area, View to the Southwest

Figure 3
Project Area, View to the North

Manos and metates were the most prevalent types of millingstones (Parr and Osborne 1992:45). The central valley began to develop distinct cultural variations, which can be distinguished by different regions throughout the valley, including Kern County.

In the Post-Archaic period enormous cultural variations began manifesting themselves throughout the entire San Joaquin Valley. This period extends into the contact period in the seventeenth, eighteenth and nineteenth centuries. Sedentary village life was emblematic of the Post-Archaic period, although hunting and gathering continued as the primary subsistence strategy. Agriculture was absent in California, partially due to the dense, predictable, and easily exploitable natural resources. The ancestral Yokuts have possibly been in the valley by the sixteenth or seventeenth century, and by the eighteenth century were the largest pre-contact population, approximately 40,000 individuals, in California (Moratto 1984).

6.0 Ethnographic Background

The Yokuts are a Penutian-speaking, non-political cultural group. Penutian speakers inhabit the San Joaquin Valley, the Bay Area, and the Central Sierra Nevada Mountains. The Yokuts are split into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts.

The southern San Joaquin Valley in the Bakersfield and associated Kern County area was home to the Yokuts tribelet, Yawelmani. The tribelets averaged 350 people in size, had a special name for themselves, and spoke a unique dialect of the Yokuts language. Land was owned collectively and every group member enjoyed the right to utilize food resources. The Yawelmani inhabited a strip of the southeastern San Joaquin Valley, north of the Kern River to the Tehachapi Mountains on the south, and from the mountains on the east, to approximately the old south fork of the Kern River on the west (Wallace 1978:449; Parr and Osborne 1992:19). The Yawelmani were the widest ranging of the Yokuts tribelets. One half dozen villages were located along the Kern River, including *Woilo* ("planting place" or "sowing place"), which was located in downtown Bakersfield, where the original Amtrak station was located. A second village was located across the Kern River from *Woilo*, on the west bank.

The Southern Valley Yokuts established a mixed domestic economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent natural resource; fishing was a productive activity throughout the entire year. Fish were caught in many different manners, including nets, conical basket traps, catching with bare hands, shooting with bows and arrows, and stunning fish with mild floral toxins. Geese, ducks, mud hens and other waterfowl were caught in snares, long-handled nets, stuffed decoys, and brushing brush to trick the birds to fly low into waiting hunters. Mussels were gathered and steamed on beds of tule. Turtles were consumed, as

were dogs, which might have been raised for consumption (Wallace 1978:449-450).

Wild seeds and roots provided a large portion of the Yokuts' diet. Tule seeds, grass seeds, fiddleneck, alfilaria were also consumed. Acorns, the staple crop for many California native cultures, were not common in the San Joaquin Valley. Acorns were traded into the area, particularly from the foothills. Land mammals, such as rabbits, ground squirrels, antelope and tule elk, were not hunted often (Wallace 1978:450).

The Yokuts occupied permanent structures in permanent villages for most of the year. During the late and early summer, families left for several months to gather seeds and plant foods, shifting camp locations when changing crops. Several different types of fiber-covered structures were common in Yokuts settlements. The largest was a communal tule mat-covered, wedge-shaped structure, which could house upward of ten individuals. These structures were established in a row, with the village chief's house in the middle and his messenger's houses were located at the ends of the house row. Dance houses and assembly buildings were located outside the village living area (Nabokov and Easton 1989:301).

The Yokuts also built smaller, oval, single-family tule dwellings. These houses were covered with tall mohya stalks or with sewn tule mats. These small houses were framed by bent-pole ribs, which met a ridgepole held by two crotched poles. The Yokuts also built a cone-shaped dwelling, which was framed with poles tied together with a hoop and then covered with tule or grass. These cone-shaped dwellings were large enough to contain multiple fireplaces (Nabokov and Easton 1989:301). Other structures included mat-covered granaries for storing food supplies, and a dirt-covered communally owned sweathouse.

Clothing was minimal; men wore a breechclout or were naked. Women wore a narrow-fringed apron. Rabbitskin or mud hen blankets were worn during the cold season. Moccasins were worn in certain places; however, most people went barefoot. Men wore no head coverings, but women wore basketry caps when they carried burden baskets on their heads. Hair was worn long. Women wore tattoos from the corners of the mouth to the chin; both men and women had ear and nose piercings. Bone, wood or shell ornaments were inserted into the ears and noses (Wallace 1978:450-451).

Tule dominated the Yokut's material culture. It was used for many purposes, including sleeping mats, wall coverings, cradles, and basketry. Ceramics are uncommon to Yokuts culture as is true throughout most California native cultures. Basketry was common to Yokuts culture. Yokuts made cooking containers, conical burden baskets, flat winnowing trays, seed beaters, and necked water bottles. Yokuts also manufactured wooden digging sticks, fire drills, mush stirrers, and sinew-backed bows. Knives, projectile points, and

scraping tools were chipped from imported lithic materials including obsidian, chert, and chalcedony. Stone mortars and pestles were secured in trade. Cordage was manufactured from milkweed fibers, animal skins were tanned, and awls were made from bone. Marine shells, particularly olivella shells, were used in the manufacture of money and articles of personal adornment. Shells were acquired from the Chumash along the coast (Wallace 1978:451-453).

The basic social and economic unit was the nuclear family. Lineages were organized along patrilineal lines. Fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was a bird or animal that no lineage member would kill or eat; the totems were dreamed of and prayers were given to the totems. The mother's totem was not passed to her offspring; but was treated with respect. Families sharing the same totem formed an exogamous lineage. The lineage had no formal leader nor did it own land. The lineage was a mechanism for transmitting offices and performing ceremonial functions. The lineages formed two moieties, East and West, which consisted of several different lineages. Moieties were customarily exogamous. Children followed the paternal moiety. Certain official positions within the villages were associated with certain totems. The most important was the Eagle lineage from which the village chief was appointed. A member of the Dove lineage acted as the chief's assistant. He supervised food distribution and gave commands during ceremonies. Another hereditary position was common to the Magpie lineage, was that of spokesman or crier.

7.0 Historical Overview

Kern County was settled in the 1860s, soon after California joined the United States after the passage of the Compromise of 1850. The Compromise of 1850 allowed California to join the Union as a free state even though a major portion of the state lied beneath the Missouri Compromise line; and was potentially subject to southern settlement and slavery. Americans had long been visiting and working in California prior to the admission of California into the Union.

The Spanish moving north from Baja California into Alta California began European settlement of California 1n 1769. Father Junipero Serra, a Franciscan friar founded Mission San Diego de Alcala, beginning California active European settlement. However, Spanish mission efforts were focused on California's coastal regions. Spanish exploration of the San Joaquin Valley region begins in the 1770s. In 1772, Pedro Fages arrived in the San Joaquin Valley searching for army deserters. Father Francisco Garces, a Franciscan priest, soon visited the vicinity in 1776. The Spanish empire collapsed in 1820, all of Spain's former Central and South American colonies became independent nations. As a result, California became Mexican territory. California stayed in Mexican hands until the Mexican-American War. Mexican California remained a coastal society with little interest in settling in California's hot, dry interior valleys.

American exploration of the San Joaquin Valley begins in the 1820s with Jedediah Smith, Kit Carson, and Joseph Walker looking for commercial opportunities. The United States government began exploring California in the 1830s. Soon, the Americans will be searching for intercontinental railroad routes to link the eastern and western halves of the continent.

The defeat of the Mexicans during the Mexican-American War and the subsequent discovery of gold will drastically alter the complicated political realities of the west. The Mexican-American War was ostensible fought to settle a boundary dispute with the Mexicans over the western boundary of the newly-annexed state of Texas, which had fought a successful rebellion against the Mexican Army in the mid 1830s. The Republic of Texas was an independent country for nine years until Texas was annexed by the United States in 1845. One major outcome of the Mexican-American War was that Mexico rescinded its claims to much of the American southwest. In 1848 these territories were folded into the United States, including California.

In January 1848, the discovery of gold in Coloma, California changed the settlement of California, forever. In the summer of 1848, when the gold strike was publicly announced, the overnight settlement of California began. The Mexican population of California was small and limited to the coasts and a few of southern California's interior valleys. A sizable native population settled the remainder of California; Bakersfield and Kern County was Yokuts territory. The Gold Rush tipped the balance of native communities throughout California, as many of California's natives were decimated.

Many areas experienced smaller gold rushes, including the Kern River Valley, when gold was discovered in Keyesville in 1853. The gold was soon played and the true future of the region was soon identified, farming, as the gold prospectors came down from the mountains. Kern Island, a median point along the Kern Delta, between the mouth of the Kern River and the Kern Lake, was settled in 1860. Soon, Col. Thomas Baker bought the property from the original owner, Christian Bohna and the settlement of Bakersfield began in earnest.

Col. Baker was lured to California by the prospects of gold. He was a practicing lawyer and surveyor and was slowing moved west from Ohio. He was involved in Iowa's territorial government and served in both the California senate and assembly. Col. Baker realized he had to drain the Kern Delta to manufacture usable farmland. He also improved his land, creating one of the only transit locations between Los Angeles and Visalia in the 1860s.

Baker laid out the town and began the process of draining, diverting, and controlling the Kern River. In 1873, Bakersfield was incorporated and was the first city in the newly-created Kern County, which was previously a portion of Tulare County. In 1874, Bakersfield got a rail link with the establishment of the Southern Pacific line over the Tehachapi Pass connecting Kern County to northern

California to points east. The train station was located in Sumner, a spite town that was established by the Southern Pacific about a mile east of downtown Bakersfield, now located in east Bakersfield. The train brought Bakersfield agricultural prosperity, since it now had quick, rail connections to larger California and eastern markets for its fruits and grains.

The city of Bakersfield was expanding to the north in the early twentieth-century toward the Kern River, after its 1898 reincorporation. The city centered along Chester Avenue, which was the main north/south thoroughfare. The community of Sumter lied to the east, and the surrounding area in all directions was farmland. The city of Bakersfield was a small community at the turn of the century, slightly less than 5,000 people lived in Bakersfield; an additional 17,000 people lived in Kern County (Maynard 1997:43). Bakersfield was a quiet city in the center of a farming region.

However, the discovery of the Kern River oil field in May 1899 quickly changed the face of the region. Bakersfield quickly became the center of a California oil boom, which remade the community. The population more than doubled in less than ten years, bringing prosperity to the area (Maynard 1997:43). Many people recognized that prosperity could not only be achieved through working in oil, but also through providing necessary services, such as milk products and lodging. The city of Bakersfield grew.

Between 1900 and 1950, Bakersfield and the greater Kern County region grew tremendously under the influence of two economic forces, agriculture and oil. By 1950, Bakersfield was a mid-sized city of approximately 50,000. It sported minor league baseball, had a regional airport, and was a major automobile link along Route 99, which connected northern and southern California. In the late 1960s, Bakersfield was beginning to change again, as the Kern County Land Company was sold to Tenneco West, and Bakersfield began to suburbanize.

8.0 Field Procedures and Methods

On September 10, 2021, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian survey of the entire proposed project area. Hudlow surveyed in north/south transects at 10-meter (33 feet) intervals across the entire parcel. All archaeological material more than fifty years of age or earlier encountered during the inventory was recorded.

9.0 Report of Findings

Two cultural resources were identified, M-1 and M-2. M-1 is an abandoned agricultural canal that runs along the northern edge of the property (Figures 5 and 6). The ca. 1940s canal is primarily a concrete-lined canal, but portions are earthen. Several portions of the canal are buried, particularly in the northeastern corner. The canal does not appear to extend past the parcel boundaries. The canal is approximately six feet wide and four feet deep; it

would have provided water for the adjacent agricultural fields. M-2 is a light scatter of historic ceramics at the opposite edge of the property (Figures 6 and 7). Two presumed house trees are present at the southern edge of the property

Figure 4
Site M-1, View to the East

Figure 5
Site M-1, View to the West

Figure 6
Site M-2, Ceramic Sherds from a Cup

along Fairview Avenue; the light scatter of polychrome ceramics is located directly to the north of the two trees. Identical to site M-1, the ceramics date to the 1940s. At least three ceramic sherds originated from the same vessel. Several other sherds were also identified. No other historic debris is present, including architectural remains, which does not discount the former presence of a house, but does suggest that any house was demolished, when the house was abandoned, and the land was returned to agricultural production. Additionally, several family houses are located along Fairview Avenue on ana adjacent parcel.

Figure 7
Site M-2, Two Small Ceramic Sherds

10.0 Management Recommendations

At the request of McIntosh and Associates, a Phase I Cultural Resource Survey was conducted on exactly 17.73 acres. The property lies on the north side of Fairview Avenue, east of Monitor Street in the City of Bakersfield, California. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the 17.73-acre site and a cultural resource record search.

Two cultural resources were identified, M-1 and M-2. M-1 is a historic agricultural ditch that was found along the northern edge of the property. M-2 is a light ceramic scatter that was identified at the opposite edge of the property along Fairview Avenue. Two house trees are also present. Neither of these sites are eligible for nomination to the California Register of Historic Resources under

Criteria 1-4. These two sites are not associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1). These two sites are not associated with the lives of persons important to local, California or national history (Criterion 2). These two sites do not embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values (Criterion 3). Lastly, these two sites will not yield, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).

No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

11.0 References

Maynard, John A.
1997 *Bakersfield: A Centennial Portrait.* Cherbo Publishing, Encino, California.

Moratto, Michael J.
1984 *California Archaeology*. Orlando, Florida, Academic Press.

Nabokov, Peter and Robert Easton
1989 *Native American Architecture.* Oxford University Press, New York, New York.

Parr, Robert E. and Richard Osborne
1992 *Route Adoption Study for Highway 58, Kern County, California.* Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

Wallace, William J.
1978 "Southern Valley Yokuts" in *Handbook of North American Indians*. Vol. 8, California, Robert F. Heizer, ed. Washington, D.C.: Smithsonian Institution, pp. 437-445.

Warren, Claude N. and M. B. McKusiak
1959 A Burial Complex from the southern San Joaquin Valley. Los Angeles: *University of California, Los Angeles, Archaeological Survey Annual Report, 1959*: 17-26.

Warren, Claude N.
1967 "The San Dieguito Complex: A Review and Hypothesis" *American Antiquity* 32(2): 168-185.

Appendix I

Scott M. Hudlow
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183

Education

The George Washington University
M.A. American Studies, 1993
Specialization in Historical Archaeology
and Architectural History

University of California, Berkeley
B.A. History, 1987
B.A. Anthropology, 1987
Specialization in Historical Archaeology
and Colonial History

Public Service

3/94-12/02 *Historic Preservation Commission.* City of Bakersfield, Bakersfield, California 93305.

7/97-12/01 *Newsletter Editor. California History Action,* newsletter for the California Council for the Promotion of History.

Relevant Work Experience

8/96- *Adjutant Faculty.* Bakersfield College, 1801 Panorama Drive, Bakersfield, California, 93305. Teach History 17A, Introduction to American History and Anthropology 5, Introduction to North American Indians.

Owner, Sole Proprietorship. Hudlow Cultural Resource Associates. 1405 Sutter Lane, Bakersfield California 93309. Operate small cultural resource management business. Manage contracts, respond to RFP's, bill clients, manage temporary employees. Conduct Phase I archaeological and architectural surveys for private and public clients; including the cultural resource survey, documentary photography, measured drawings, mapping of structures, filing of survey forms, historic research, assessing impact and writing reports. Evaluated archaeological and architectural sites and properties in lieu of their eligibility for the National Register of Historic Places in association with Section 106 and 110 requirements of the National Historic Preservation Act of 1966 and CEQA (California Environmental Quality Act).

Full resume available upon request.

Appendix II

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

9/20/2021

Scott M. Hudlow
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, CA 93309

Re: McIntosh 21-01
Records Search File No.: 21-335

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Gosford USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of non-archaeological resources and reports are provided in the following format: ☐ custom GIS maps ☐ GIS data

Resources within project area:	None
Non-archaeological Resources within 0.5 mile radius:	P-15-020547
Reports within project area:	None
Reports within 0.5 mile radius:	KE-00920, 02059, 02811, 03149, 04563, 04623

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☒ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☒ not requested	☐ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see https://www.slc.ca.gov/shipwrecks/

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

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.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Jeremy E. David
Assistant Coordinator

McINTOSH & ASSOCIATES

Land Surveying

Civil Engineering

Photogrammetry

G P S

Planning

Environmental

Landscape Architecture

Petroleum Engineering

661•834•4814

Fax 661•834•0972

2001 Wheelan Court

Bakersfield, CA 93309

www.mcintoshassoc.com

mcengr@mcintoshassoc.com

November 1, 2021

City of Bakersfield, Public Works Department
Traffic Engineering
1501 Truxtun Avenue
Bakersfield, CA 93301

Re: General Plan Amendment and Zone Change for approximately 17.32 gross acres located northwest of Fairview Road and S. Union Avenue, a.k.a. Assessor Parcel Numbers (APN's) 412-010-58, located in the Northeast Quarter of Section 19, T30S, R28E, M.D.M. McIntosh & Associates Job No. 21-008.01

Please consider the following information provided, as justification for an exemption from the requirement to perform an independent traffic impact analysis for the subject General Plan Amendment and Zone Change. The project proposes to revise the land use and zoning on approximately 17.32 gross acres. The existing land use is designated as Low Density Residential (LR). The existing zoning is Single Family Dwelling (R-1). The proposed land use designation is High Medium Density Residential (HMR) and the proposed zoning is Limited Multiple-Family Dwelling (R-2).

The attached Tables 1, 2 & 3 indicate trip generation calculations using the "Institute of Transportation Engineers" *Trip Generation Manual 10th Edition* for the existing land use/zoning and proposed GPA/ZC. As shown on the attached Table 1, the existing land use/zoning results in a total P.M. Peak Hour trip generation of 127 Trip Ends. Table 1 also indicates that the proposed land use/zoning will result in a P.M. Peak Hour trip generation of 158 Trip Ends, for a net increase of 31 P.M. Peak Hour Trip Ends. For the A.M. Peak Hour, Table 3 indicates the existing land use/zoning results in a trip generation of 94 Trip Ends. Table 3 also indicates that the proposed land use/zoning will result in an A.M. Peak Hour trip generation of 136 Trip Ends, for a net increase of 42 A.M. Peak Hour Trip Ends. Table 2 indicates similar trip generation calculations for Daily Traffic volumes. This proposed revision to the land use increases the P.M. Peak Hour trip generation volume by only 31 Trip Ends, while the A.M. Peak Hour trip generation volume increases by only 42 Trip Ends. This minor increase in both peak hour periods qualifies this proposed GPA/ZC to be exempted from performing a detailed traffic impact analysis in accordance with the City's "Methodology for Independent Assessment of Regional Impact Fees". The project applicant would therefore like to request that the Regional Transportation Impact Fee (RTIF) fixed rate fee schedule be used for computation of required impact fees for the project.

In 2013 SB 743 was passed by legislation and signed into law by the Governor of California, with the intent to change the evaluation of traffic impacts related to CEQA from Level of Service (LOS) to Vehicle Miles Traveled (VMT). Guidelines for implementation of the law were approved in December 2018 and agencies are required to implement the requirements by July 1, 2020. As of November 2021, the City of Bakersfield has not adopted any policies or thresholds for VMT analysis. Under CEQA, agencies have the discretion to adopt policies and thresholds based on a wide range of options and evaluation criteria. Per the 2009 Regional Transportation Impact Fee (RTIF) Nexus Report, Multifamily has an average trip length of 6.72 miles. Based on the high number of local-retail facilities, and transportation facilities located around and near the project site, we believe that there is sufficient justification that the estimated vehicle miles traveled would be significantly less than 6.72 miles, as well as below the Governor's Office of Planning and Research recommended threshold for a proposed project exceeding a level of 15 percent below existing VMT per capita which would be approximately 5.72 miles. For the purpose of this study, it was assumed City of Bakersfield will adopt this same recommendation for VMT per capita threshold, therefore the project has less than significant impacts.

Along with the above mentioned tables, attached is a copy of the Proposed General Plan Amendment/Zone Change exhibit map with the project area shown. Please contact us should you have any questions regarding this request for exemption.

Sincerely,
McIntosh & Associates

Blaine Neptune
RCE 55102

DATE: 11-1-21

MJT:mjt
cc: Blaine Neptune
Whitney Jackson

Project Traffic – 21-008.01 Palla NW GPA/ZC from LR to HMR

The traffic volumes generated from the proposed project were estimated using the "Institute of Transportation Engineers" Trip Generation Manual, 10th ed. © 2017.

Project Traffic – PM Peak Hour

Table 1: Proposed Project Traffic - P.M. Peak Hour Trip Ends

Land Use	Acres	Density D.U.'s / AC	D.U.'s	ITE Code	Rate	Peak Hour Trips-PM	Split In	Split Out
Single Family Residential (Existing)	17.32	7.26	126	210	Note 1	127	80	47
Multi-Family Residential (HMR) (Proposed)	17.32	17.42	302	220	Note 2	158	100	58
TOTAL					Increase (-Decrease)	31	20	11

Note 1: Used Fitted Curve Equation: Ln(T) = 0.96Ln(x) + 0.20 to determine trip generation.
Note 2: Used Fitted Curve Equation: Ln(T) = 0.89Ln(# of D.U.'s) – 0.02 to determine trip generation.

Project Traffic – Daily Traffic (A.A.D.T.)

Table 2: Proposed Project Traffic – Daily Traffic Trip Ends (A.A.D.T.)

Land Use	Acres	Density D.U.'s / AC	D.U.'s	ITE Code	Rate	Daily Trip Ends-AADT	Split In	Split Out
Single Family Residential (Existing)	17.32	7.26	126	210	Note 1	1284	642	642
Multi-Family Residential (HMR) (Proposed)	17.32	17.42	302	220	Note 2	2242	1121	1121
TOTAL					Increase (-Decrease)	958	479	479

Note 1: Used Fitted Curve Equation: Ln(T) = 0.92Ln(x) + 2.71 to determine trip generation.
Note 2: Used Fitted Curve Equation: T = 7.56(# of D.U.'s) – 40.86 to determine trip generation.

Project Traffic – AM Peak Hour

Table 3: Proposed Project Traffic - A.M. Peak Hour Trip Ends

Land Use	Acres	Density D.U.'s / AC	D.U.'s	ITE Code	Rate	Peak Hour Trips-AM	Split In	Split Out
Single Family Residential (Existing)	17.32	7.26	126	210	Note 1	94	24	71
Multi-Family Residential (HMR) (Proposed)	17.32	17.42	302	220	Note 2	136	31	105
TOTAL					Increase (-Decrease)	42	8	35

Note 1: Used Fitted Curve Equation: T = 0.71(X) + 4.80 to determine trip generation.
Note 2: Used Fitted Curve Equation: Ln(T) = 0.95Ln(# of D.U.'s) – 0.51 to determine trip generation.

EXHIBIT "B"
GENERAL PLAN AMENDMENT

LEGEND

PROPOSED GENERAL PLAN AMENDMENT

LR. DESIGNATION

660.21'

S89°30'54"E 2640.82'

660.20'

1320.41'

LOT 8

SI DESIGNATION

LOT 9

KERN COUNTY SALES MAP NO. 1 OF THE LANDS OF J.B. HAGGIN
SECTION 19, T.30S., R.28E., M.D.M.

PARCEL "A" OF P.M.W. NO. 30-89
PER CERTIFICATE OF COMPLIANCE
BK. 6335, PG. 837 O.R. & BK. 6348, PG. 573 O.R.
17.73 ACRES

945.85'

C/L SOUTH UNION AVENUE

PS. DESIGNATION

N00°36'18"E 1321.82'

N00°36'26"E 1321.84'

LR TO HMR DESIGNATION

S00°36'34"W 1321.85'

LI DESIGNATION

S00°36'50"W 1321.88'

LOT 10

S89°30'50"E 267.00'

N00°36'34"E 376.00'

376.00'

660.15'

393.15'

267.00'

S89°30'50"E 2640.61'

1320.31'

E 1/4 COR. SEC. 19 30/28

C/L FAIRVIEW ROAD

LR DESIGNATION

PACHECO ROAD

SOUTH "H" STREET

SITE

FAIRVIEW ROAD

MONITOR STREET

SOUTH UNION AVENUE

PANAMA LANE

VICINITY MAP
NO SCALE

N

SCALE: 1" = 100'

100' 50' 0' 100' 200'

McINTOSH & ASSOCIATES
LAND SURVEYING • CIVIL ENGINEERING ©2020

2001 WHEELAN COURT
BAKERSFIELD, CALIFORNIA 93309
(661) 834 - 4814

JOB NO. 21-008.01
DATE: 5-3-21
DRAWN BY: JCD
ISSUED FOR:

REGISTERED PROFESSIONAL ENGINEER
No. 43837
STATE OF CALIFORNIA
5-4-21
DATE:

BY:
REVISIONS
DATE

GREG PALLA, TRUSTEEOF THE DOROTHY PALLA RESIDUAL TRUST
PARCEL "A" OF PARCEL MAP WAIVER NO. 3089
GENERAL PLAN AMENDMENT

SHEET 1 OF 1 SHEETS

EXHIBIT "B"
ZONE CHANGE

LEGEND

PROPOSED ZONE CHANGE

R-1 ZONE

MH ZONE

660.21'

660.20'

S89°30'54"E 2640.82'

1320.41'

LOT 8

LOT 9

M-2 ZONE

KERN COUNTY SALES MAP NO. 1 OF THE LANDS OF J.B. HAGGIN
SECTION 19, T.30S., R.28E., M.D.M.

PARCEL "A" OF P.M.W. NO. 30-89
PER CERTIFICATE OF COMPLIANCE
BK. 6335, PG. 837 O.R. & BK. 6348, PG. 573 O.R.
17.73 ACRES

R-1 TO R-2 ZONING

945.85'

C/L SOUTH UNION AVENUE

N00°36'18"E 1321.82'

R-1 ZONE

N00°36'26"E 1321.84'

S00°36'34"W 1321.85'

S00°36'50"W 1321.88'

M-1 ZONE

LOT 10

S89°30'50"E 267.00'

N00°36'34"E 376.00'

376.00'

660.15'

393.15'

267.00'

S89°30'50"E 2640.61'

1320.31'

E 1/4 COR. SEC. 19 30/28

C/L FAIRVIEW ROAD

R-1 ZONE

PACHECO ROAD

SOUTH "H" STREET

SITE

FAIRVIEW ROAD

MONITOR STREET

SOUTH UNION AVENUE

PANAMA LANE

VICINITY MAP
NO SCALE

N

SCALE: 1" = 100'

100' 50' 0' 100' 200'

McINTOSH & ASSOCIATES
LAND SURVEYING • CIVIL ENGINEERING
2001 WHEELAN COURT
BAKERSFIELD, CALIFORNIA 93309
(661) 834 - 4814

JOB NO. 21-008.01
DATE: 5-3-21
DRAWN BY: JCD
ISSUED FOR:

REGISTERED LAND SURVEYOR
No. 4383
STATE OF CALIFORNIA
DATE:

REVISIONS
BY
DATE

GREG PALLA, TRUSTEEOF THE DOROTHY PALLA RESIDUAL TRUCT
PARCEL "A" OF PARCEL MAP WAIVER NO. 3089

ZONE CHANGE

SHEET 1 OF 1 SHEETS

CALIFORNIA WATER SERVICE
Bakersfield District3725 South H St., Bakersfield, CA 93304
Tel: (661) 837-7200

October 22, 2021

City of Bakersfield
Planning Department
1715 Chester Lane
Bakersfield, CA 93301

Will Serve Letter
Tract or Parcel Map No: *APN: #412-010-58*
Developer: *Greg Palla*

Dear City of Bakersfield:

As a regulated utility, California Water Service Company Bakersfield district ("Cal Water") has an obligation to provide water service in accordance with the rules and regulations of the California Public Utility Commission (CPUC). Assuming you receive all required permits from City of Bakersfield, Cal Water will provide water service to the above referenced project. Cal Water agrees to operate the water system and provide service in accordance with the rules and regulations of the California Public Utilities Commission (CPUC) and the company's approved tariffs on file with the CPUC. This will serve letter shall remain valid for **two years** from the date of this letter. If construction of the project has not commenced within this **two year** time frame, Cal Water will be under no further obligation to serve the project unless the developer receives an updated letter from Cal Water reconfirming our commitment to serve the above mentioned project. Additionally, Cal Water reserves the right to rescind this letter at any time in the event its water supply is severely reduced by legislative, regulatory or environmental actions.

Cal Water will provide such potable[1] water at such pressure as may be available from time to time as a result of its normal operations per the company's tariffs on file with the CPUC. Installation of facilities through developer funding shall be made in accordance with the current rules and regulations of the CPUC including, among others, Tariff Rules 15 and 16 and General Order 103-A. In order for us to provide adequate water for domestic use as well as fire service protection, it may be necessary for the developer to fund the cost of special facilities, such as, but not limited to, booster pumps, storage tanks and/or water wells,[2] in addition to the cost of mains and services. Cal Water will provide more specific information regarding special facilities and fees after you provide us with your improvement plans, fire department requirements, and engineering fees for this project.

[1] This portion of the letter to be modified accordingly in the event the development for which this letter is being generated is to be served with potable and non potable water.
[2] For the districts that collect facility fees on a per lot basis, delete the reference to wells as a special facility here and add in the following sentence, "Developer will also be required to contribute towards Cal Water's water supply by paying facilities fees on a per lot basis as described in Rule 15"

CALIFORNIA WATER SERVICE

This letter shall at all times be subject to such changes or modifications by the CPUC as said Commission may, from time to time, require in the exercise of its jurisdiction.

If you have any questions regarding the above, please call me at *(661) 837-7271*.

Sincerely,

Tamara Johnson

Tamara Johnson
District Manager

cc: Rashmi Kashyap – Cal Water Engineering Dept.
File