Colett-Martin Residential Project

Draft Initial Study / Mitigated Negative Declaration

May 2024

SCH No. XXX

Prepared by:

The City of MADERA

Planning Department
205 W. 4th Street
Madera, CA 93637

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Chapter 1 Introduction

Crawford & Bowen Planning, Inc. has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Madera to address the environmental effects of the Colett-Martin Residential Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et.seq. The City of Madera is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the Project Description.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq*.)-- also known as the CEQA Guidelines-- Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is *no substantial* evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or*
b. *The IS identified potentially significant effects, but:*
    1. *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and*
    2. *There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment.*

1.2 Document Format

This IS/MND contains five chapters plus appendices. Introduction, provides an overview of the proposed Project and the CEQA process. Project Description, provides a detailed description of proposed Project components. Chapter 3 Determination identifies the environmental factors potentially affected based on the analyses contained in this IS and includes with the Lead Agency's determination based upon those analyses. Determination

Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are. checked below would have potentially significant

impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in Chapter 4 Impact Analysis result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less Than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

1.3 Determination

On the basis of this initial evaluation (to be completed by the Lead Agency):

> I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____

Printed Name/Position

Impact Analysis, presents the CEQA checklist and environmental analyses for all impact areas, mandatory findings of significance, and feasible mitigation measures, if applicable. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why the impact is anticipated to be less than significant or why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Mitigation Monitoring and Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The CalEEMod Output Files are provided in Appendix A, The Biological Due Diligence report is provided in Appendix B, the Phase I Cultural Resource Survey Report is provided in Appendix C, the Phase I Environmental Site Assessment Report is provided as Appendix D, the Geotechnical Investigation Report is provided in Appendix E and the Acoustical Analysis Report is provided as Appendix F, at the end of this document.

Chapter 2 Project Description

2.1 Project Background

2.1.1 Project Title

KB Homes: Colett-Martin Residential Project

2.1.2 Lead Agency Name and Address

City of Madera
Planning Department
205 W. 4th Street
Madera, CA 93637

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Robert Smith
Senior Planner
City of Madera
559-661-5430

2.1.4 Project Location

The proposed Project site is located on the southeast corner of East Adell Street & North D Street in the northeastern portion of the City of Madera, approximately 0.9 miles east of SR 99, approximately 1.0 miles north of SR 145 (see

Figure 2-1). The proposed site is located within T11S R17E S12 and T11S R17E S13, and consists of three land parcels, 004-170-009, 004-170-010, and 004-170-020 for a total of approximately 7.8 acres. The site is currently vacant and undeveloped.

2.1.5 Latitude and Longitude

The central geographic position of the Project area is approximately 36.9819° north latitude, 120.0618° west longitude.

2.1.6 General Plan Designation

The Project site is within the City of Madera limits. The site is designated by the City of Madera's General Plan as LD (Low Density Residential), such as the proposed Project. The residential units planned as part of the proposed Project are within the allowed density range.

2.1.7 Zoning

The Project site is currently zoned by the City of Madera as Planned Development (4500), which is defined as one unit for each 4,500 sq. ft.

2.1.8 Description of Project

Project Background and Purpose

The proposed Project intends to provide single-family residential housing for the residents of the City of Madera in a growing part of the City.

Project Description

The proposed Project consists of development of 51 single-family residential units on an approximately 7.8-acre site in the northern part of the City of Madera. The proposed Project also includes associated improvements such as internal access roads, street lighting, and landscaping (see Figure 2-3). Site access will be along N. D Street to the west, Adell Street to the north, and Austin Street to the east. To accommodate the Project a Tentative Subdivision Map approval for the entire site will be needed. The Project site is currently zoned and designated in the General Plan for residential uses by the City of Madera, such as the proposed Project. Project development is expected to begin in late 2024.

2.1.9 Site and Surrounding Land Uses and Setting

Project Setting

The proposed Project site is located southeast of N. D Street and Adell Street along the northern edge of the City limits of Madera, on APNs 004-170-009, -10 and -20. The proposed Project site is located in the northern part of the City of Madera, in a mix of urban and rural area, surrounded by residential housing and vacant/disturbed land. Single-family residences exist to the west of the site, with a church located to the south. Rural residences exist to the southeast, northeast, and northwest. Vacant/disturbed land uses

also exist to the north and south. The site can be characterized as heavily disturbed annual grassland that is regularly disked for weed control. Isolated trees occur on the northern and western borders of the site.

Table 2-1 Existing Uses, General Plan Designations, and Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
North	Vacant/disturbed land	Rural Residential Single Family (Madera County)	RRS (Madera County)
East	Vacant/disturbed land	LD Low Density Residential	Residential (PD 4500)
South	Church, rural residences	LD Low Density Residential	Residential (PD 4500)
West	Single-family residential subdivision	LD Low Density Residential	R1 (PD 3000)

See Figure 2-4 and

Figure 2- for the zoning and general plan designations, respectively.

2.1.10 Other Public Agencies Whose Approval May Be Required

- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- California Regional Water Quality Control Board
- Madera County LAFCO

2.1.11 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 90 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

Letters were sent out to tribes on February 14th, 2024. City of Madera has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

Figure 2-1 Regional Location

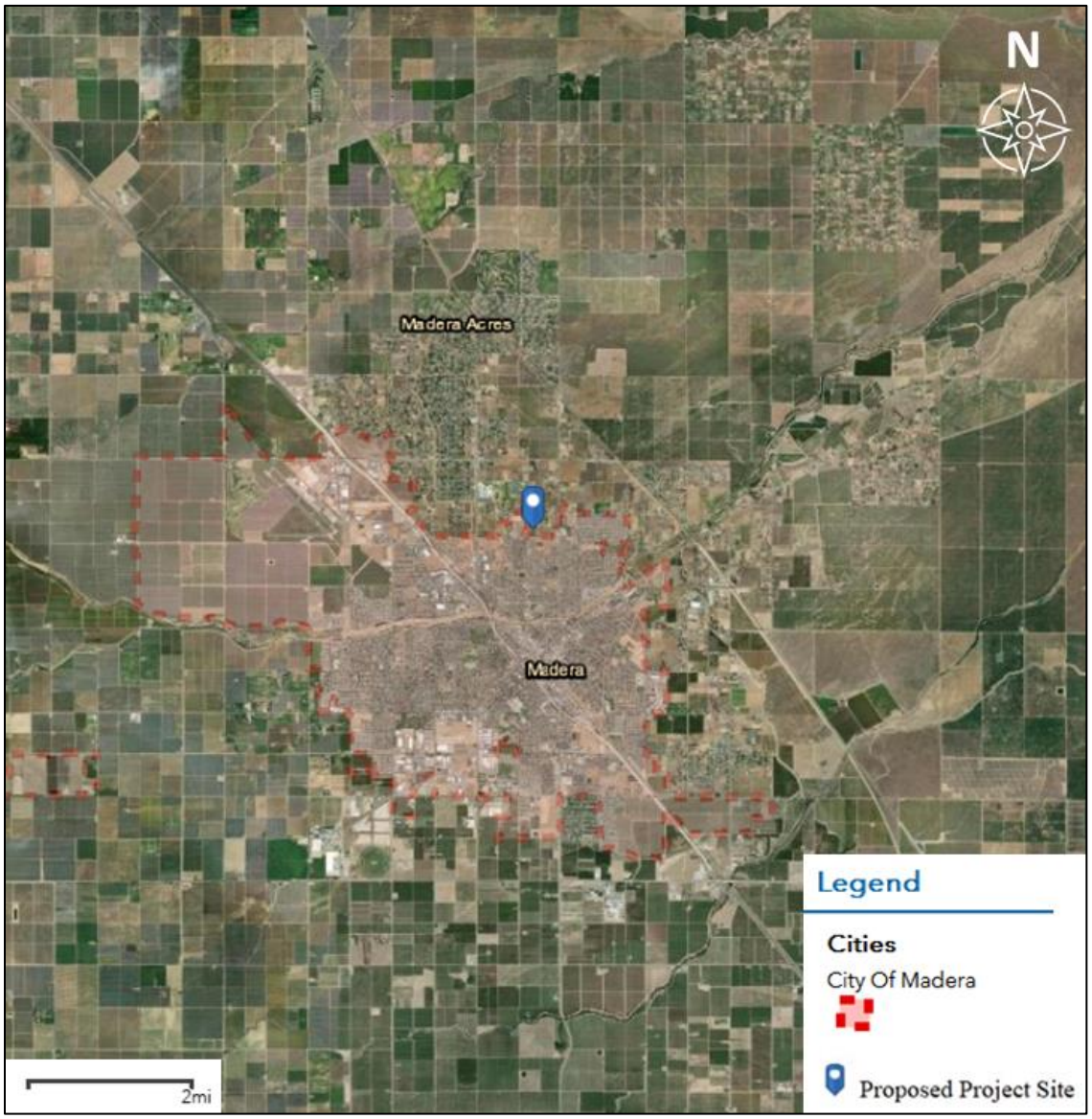


Figure 2-2 Vicinity Map

Figure 2-3 Site Plan

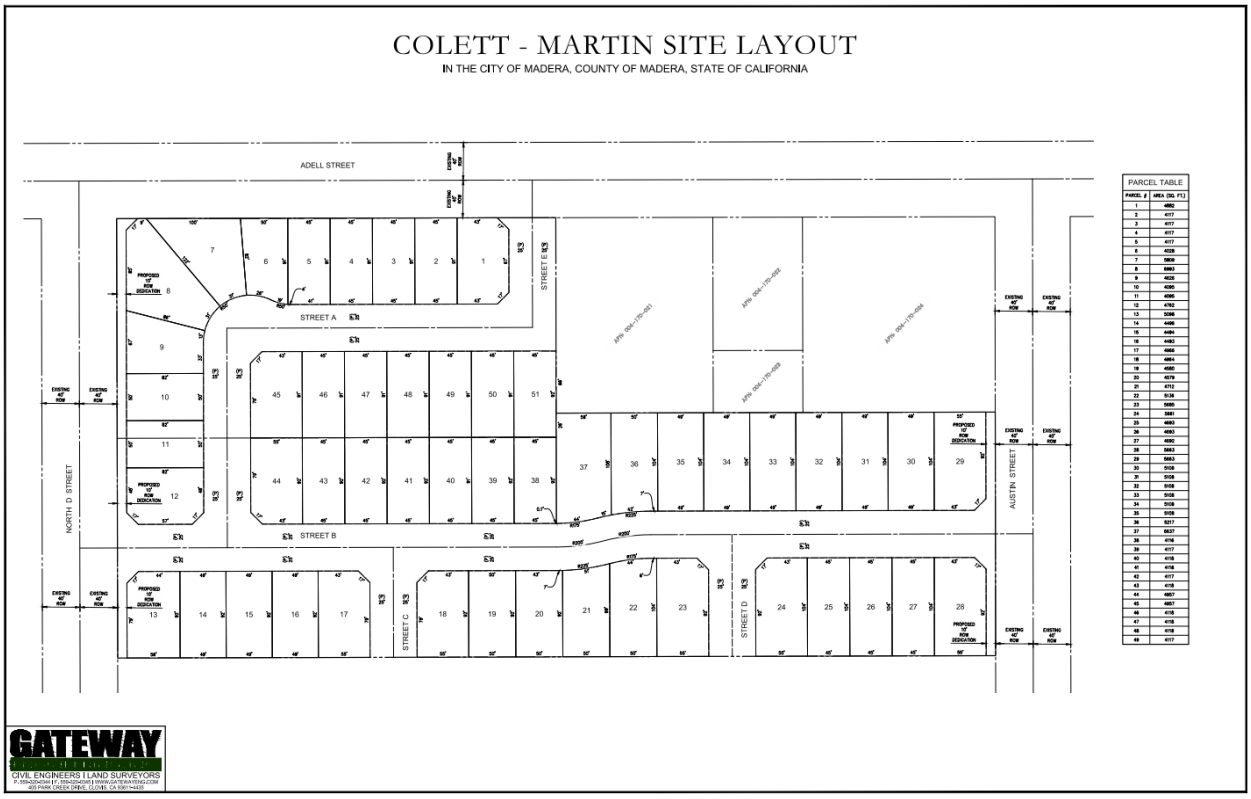


Figure 2-4 Zone District Map

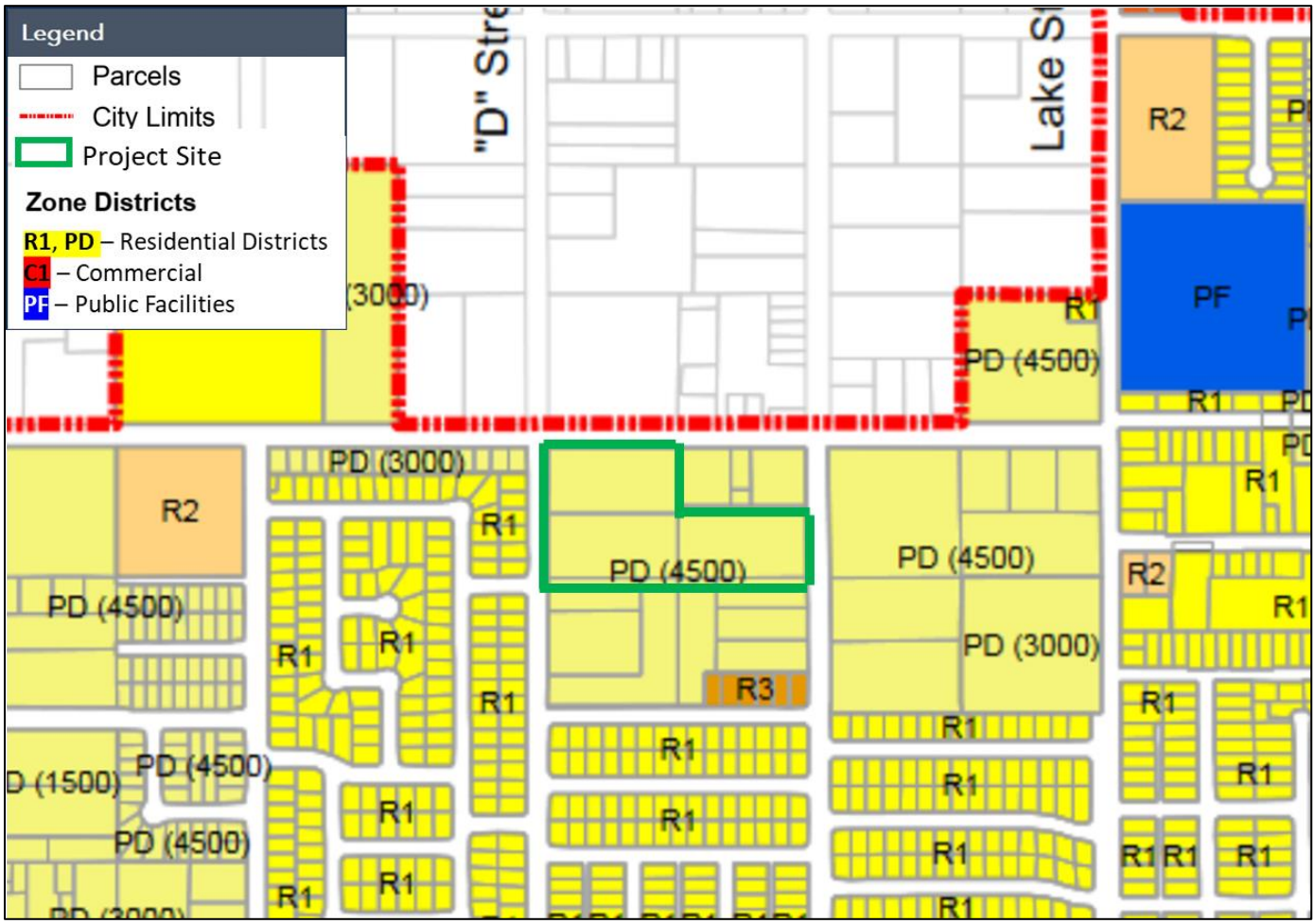
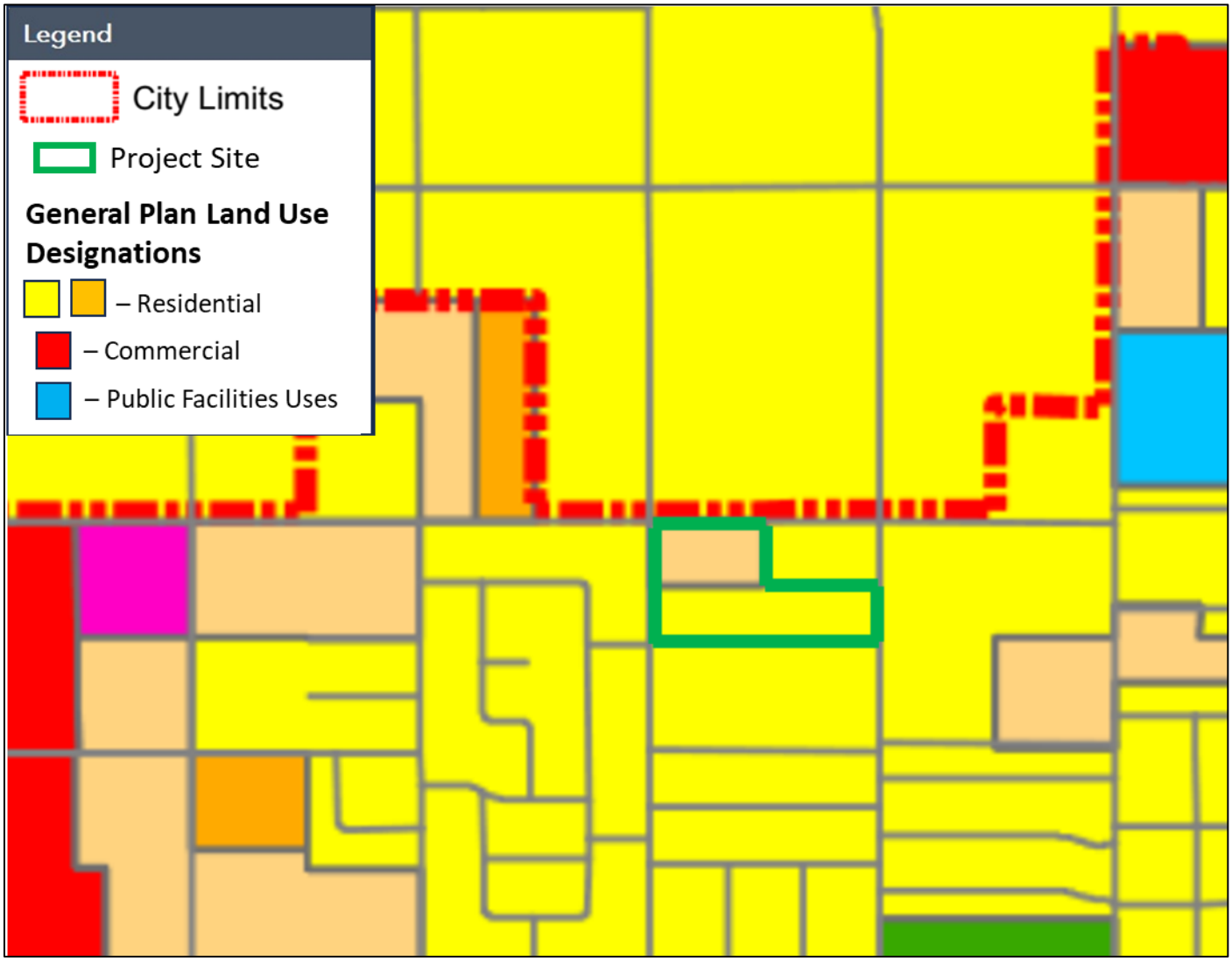


Figure 2-5 General Plan Land Use Designation Map



Chapter 3 Determination

3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are. checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

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☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____

Printed Name/Position

Chapter 4 Impact Analysis

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

4.1.1 Environmental Setting

The City of Madera is located in central Madera County on the east side of the San Joaquin Valley floor. The City of Madera is characterized by flat terrain of approximately 250 to 275 feet above mean sea level. The City is approximately 15 miles from the Sierra Nevada foothills located to the east.

The proposed Project site is located southeast of North D Street and Adell Street within the City limits of Madera, and consists of vacant/disturbed land with minimal vegetation and several trees in the southwest corner.

The aesthetic features in the proposed Project area are relatively uniform; consisting of rural residences, single family residences and vacant or disturbed land. There are no scenic resources or scenic vistas in the area. State Highway 99 is located approximately 1.25 miles to the east.

4.1.2 Impact Assessment

a) Would the project have a substantial adverse effect on a scenic vista?

The proposed Project consists of development of 51 single-family residential units on an approximately 7.8-acre site in the northern part of the City of Madera. The proposed Project includes associated improvements such as

access roads, street lighting, and landscaping. The proposed Project site is located southeast of N. D Street and Adell Street along the northern edge of the City limits of Madera, on APNs 004-170-009, -10 and -20.

The proposed residential development is located in a growing part of the City, and will be consistent with the surrounding visual character which consists of single family and rural residential developments, and vacant/disturbed land. The City of Madera General Plan does not identify or designate any scenic vistas in the Project area. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The Project is located in an area of minimal topographic relief, and views of the site are easily obscured by buildings, fences, other structures and trees. Neither the Project area nor any surrounding land use contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks).

The proposed structures will also conform to design standards set forth by the City's General Plan and Zoning Ordinance. Construction activities will be visible from the adjacent roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista. The impact will be ***less than significant***.

Mitigation Measures: None are required.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. According to the California Department of Transportation Scenic Highway Mapping System, there are no state designated or eligible scenic highways within the immediate proximity to the Project site.[1] In addition, no scenic highways or roadways are listed within the Project area in the City of Madera's General Plan or Madera County's General Plan. Based on the National Register of Historic Places (NRHP) and the City's General Plan, no historic buildings exist on the Project site. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The proposed Project includes development of 51 single-family residences on an approximately 7.8-acre site, including associated roads, landscaping, and lighting. The structures will conform to design standards set forth by the City's General Plan and Zoning Ordinance. The proposed Project site is located in an area that is substantially surrounded by urban and rural residential uses and will not result in a use that is visually incompatible with the surrounding area.

The site is visible from surrounding residences and from vehicles traveling along adjacent streets. However, the proposed Project site is planned for low density residential housing according to the City's General Plan and will be similar in visual character to the existing area, as similar urban uses are found in the area and throughout both rural

[1] California Department of Transportation. California Scenic Highway Mapping System. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html. Accessed March 2024.

and urban parts of the Central Valley. As such, the proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings. The impact will be ***less than significant***.

Mitigation Measures: None are required.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare and waste energy, and if designed incorrectly, could be considered unattractive. Light that falls beyond the intended area is referred to as "light trespass". Types of light trespass include spillover light and glare. Minimizing all these forms of obtrusive light is an important environmental consideration. A less obtrusive and well-designed energy efficient fixture would face downward, emit the correct intensity of light for the use, and incorporate energy timers.

Spillover light is light emitted by a lighting installation that falls outside the boundaries of the property on which the installation is sited. Spillover light can adversely affect light-sensitive uses, such as residential neighborhoods at nighttime. Because light dissipates as it travels from the source, the intensity of a light fixture is often increased at the source to compensate for the dissipated light. This can further increase the amount of light that illuminates adjacent uses. Spillover light can be minimized by using only the level of light necessary, and by using cutoff type fixtures or shielded light fixtures, or a combination of fixture types.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare. Glare can be reduced by design features that block direct line of sight to the light source and that direct light downward, with little or no light emitted at high (near horizontal) angles, since this light would travel long distances. Cutoff-type light fixtures minimize glare because they emit relatively low-intensity light at these angles.

Currently the sources of light in the Project area are from street lights, the vehicles traveling along North D street and Adell Street and nearby residences to the northwest, west, and south. The Project would include nighttime lighting for security. Such lighting would be subject to the requirements of the City of Madera General Plan Policy CON-44, which ensures that outdoor lighting does not produce obtrusive glare onto the public right-of-way or adjoining properties. Lighting fixtures for security would be designed with "cutoff" type fixtures or shielded light fixtures, or a combination of fixture types to cast light downward, thereby providing lighting at the ground level for safety while reducing glare to adjacent properties. Accordingly, the Project would not create substantial new sources of light or glare. Potential impacts are ***less than significant***.

Mitigation Measures: None are required.

4.2 Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 Environmental Setting

The proposed residential development is located in a growing part of the City, with the surrounding area consisting of single family and rural residential developments, and vacant/disturbed land.

4.2.2 Impact Assessment

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The proposed residential Project is located on approximately 7.8 acres of land that is currently vacant and highly disturbed with several trees along the northern and western site borders. The Project site is designated

as Vacant or Disturbed Land by the State Farmland Mapping and Monitoring Program.[2] The site has been designated for residential development according to the City's General Plan. As such, there would be ***no impacts***.

Mitigation Measures: None are required.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The proposed Project site is not under a Williamson Act Contract and is located in an area dominated by residential development to the east, south, and west with vacant land to the north.
There is ***no impact***.

Mitigation Measures: None are required.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. This impact evaluates the potential for the proposed Project to conflict with existing Forest Land zoning or result in the loss of forest land or result in the conversion of forest land to non-forest use. There is no forest land zoning on the proposed Project site and there are no forest uses on the site. No loss of forest land would occur and no conflicts would occur. Therefore, ***no impacts*** would occur.

Mitigation Measures: None are required.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced above, would occur as a result of the Project. There is ***no impact.***

Mitigation Measures: None are required.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The site is planned for residential uses according to the City of Madera's General Plan and is being developed as such. The proposed Project does not have the potential to result in the conversion of Farmland to non-agricultural uses or forestland uses to non-forestland. There is ***no impact***.

Mitigation Measures: None are required.

[2] Department of Conservation, California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed March 2024.

4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Environmental Setting

The climate of the San Joaquin Valley is characterized by long, hot summers and stagnant, foggy, winters. Precipitation is low and temperature inversions are common. These characteristics are conducive to the formation and retention of air pollutants and are in part influenced by the surrounding mountains which intercept precipitation and act as a barrier to the passage of cold air and air pollutants.

The proposed Project lies within the San Joaquin Valley Air Basin, which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O3), sulfur dioxide (SO2), nitrogen dioxide (NO2), particulate matter (PM10 and PM2.5), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either “attainment”, “non-attainment”, or “extreme non-attainment” areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal extreme non-attainment area for O3, a State and Federal non-attainment area for PM2.5, a State non-attainment area for PM10, and Federal and State attainment area for CO, SO2, NO2, and Pb.[3]

[3] San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards & Valley Attainment Status. https://ww2.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/. Accessed November 2023.

4.3.2 Impact Assessment

Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM10): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

Short-Term Emissions of Ozone Precursors (ROG and NOX): Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_X that exceeds 10 TPY.

Long-Term Emissions of Particulate Matter (PM10): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM_{10} that exceed 15 TPY.

Long-Term Emissions of Ozone Precursors (ROG and NOX): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NOX that exceeds 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The proposed Project includes development of 51 single-family residences on an approximately 7.8-acre site, including associated roads, landscaping, and lighting. The proposed residential development is located in a growing part of the City, with the surrounding area consisting of single family and rural residential developments, and vacant/disturbed land.

Air Quality Plans (AQPs) are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. The proposed Project site is located within the jurisdictional boundaries of the SJVAPCD. To show attainment of the standards, the SJVAPCD analyzes the growth projections in the Valley, contributing factors in air pollutant emissions and formations, and existing and adopted emissions controls. The SJVAPCD then formulates a control strategy to reach attainment that includes both State and SJVAPCD regulations and other local programs and measures.

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable AQP.

As shown in Table 4-1Error! Reference source not found., the proposed Project's construction and operational r egional emissions would not exceed SJVAPCD's regional criteria pollutant emissions quantitative thresholds. Therefore, the proposed Project would not be considered in conflict with or obstruct implementation of the applicable air quality plan and the impact is ***less than significant***.

Mitigation Measures: None are required.

b) Would the project 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?

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. The proposed Project lies within the San Joaquin Valley Air Basin (SJVAB). The San Joaquin Valley Air Basin (SJVAB) is designated nonattainment of state and federal health-based air quality standards for ozone and $PM_{2.5}$. The SJVAB is designated nonattainment of state PM_{10}. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including[4]:

- 2007 Ozone Plan for attainment of the 8-hour ozone standard
- 2007 PM_{10} Maintenance Plan and Request for Redesignation
- 2008 $PM_{2.5}$ Plan
- 2012 PM2.5 Plan;
- 2015 Plan for the 1997 PM2.5 Standard;
- 2016 Ozone Plan for 2008 8-Hour Ozone Standard;
- 2016 Moderate Area Plan for the 2012 PM2.5 Standard; and
- 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards
- 2022 Plan for the 2015 8-Hour Ozone Standard

[4] Air Quality Attainment Plans, San Joaquin Valley Air Pollution Control District. https://ww2.valleyair.org/rules-and-planning/air-quality-plans/. Accessed March 2024.

- 2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the Project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the project uses would be considered to conflict with the attainment plans. In addition, if the Project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

The annual significance thresholds to be used for the Project for construction and operational emissions are as follows[5]:

- 10 tons per year ROG
- 10 tons per year NOx
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

Project Emissions

Site preparation and Project construction would involve excavation, grading, hauling, and various activities needed to construct the Project. During construction, the Project could generate pollutants such as hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended PM. A major source of PM would be windblown dust generated during construction activities. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Vehicles leaving the site could deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries.

PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, the silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction site.

The proposed Project construction schedule would begin in mid-late 2024. Project construction and operational emissions were estimated using the California Emissions Estimator Model (CalEEMod), ver. 2020.4.0.[6] The report can be found in its entirety in Appendix A.

Table 4-1
Project Construction and Operational Emissions

	VOC (ROG) (tons/year)	NO_x (tons/year)	PM10* (tons/year)	PM2.5 (tons/year)	CO_2 (MT/year)
2024	0.15	1.38	0.25	0.15	237.2
2025	0.95	0.77	0.05	0.04	156.23
Annual Construction Emissions Maximum:	0.95	1.38	0.25	0.15	237.2

[5] San Joaquin Valley Air Control District – Air Quality Threshold of Significance – Criteria Pollutants. https://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf. Accessed March 2024.

[6] Air Emissions Modeling Output, CalEEMod ver. 2020.4.0, Appendix A.

	VOC (ROG) (tons/year)	NO_x (tons/year)	PM10* (tons/year)	PM2.5 (tons/year)	CO_2 (MT/year)
Total Operational Emissions:	0.69	0.49	0.53	0.15	596.85
Threshold of Significance	10	10	15	15	--
Exceed Threshold?	No	No	No	No	N/A

As shown in Table 4-1, annual construction and operational emissions would be below the SJVAPCD's significance threshold. Additionally, the SJVAPCD has implemented Regulation VIII measures for dust control related to construction projects, which are applicable to the Project and will be enforced by the City and the City's contractor, which will further reduce construction PM_{10} emissions. The Project uses would not conflict with emissions inventories contained in regional air quality attainment plans and would not result in a significant contribution to the region's air quality non-attainment status[7]. Likewise, the Project would not result in a cumulatively considerable net increase of any criteria pollutant within the SJVAPCD jurisdiction as no emissions thresholds were met.

Emissions occurring at or near the project have the potential to create a localized impact that could expose sensitive receptors to substantial pollutant concentrations. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest existing sensitive receptors (to the site area) are single-family residential land uses located approximately 40 feet west and rural residences south of the Project site.

Based on Table 4-1, Project construction and operational emissions will not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$, and will not lead to a cumulatively considerable net increase of these pollutants. Therefore, the Project would not potentially expose nearby sensitive receptors to substantial pollutant concentrations or result in other emissions. It will not cumulatively increase any criteria pollutant and will not result in substantial pollutant concentrations.

Any impacts to air resources would be considered ***less than significant***.

Mitigation Measures: None are required.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The Project includes a residential development and as such, would not be a source of ongoing objectionable odors.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the Project's site boundaries. The potential for diesel odor impacts would therefore be less than significant. Any impacts would be ***less than significant.***

[7] San Joaquin Valley Air Pollution Control District. Guidance to Assessing and Mitigating Air Quality Impacts. February 19, 2015. Page 65. https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed November 2023.

Mitigation Measures: None are required.

4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

4.4.1 Environmental Setting

The proposed Project site is located in a portion of the central San Joaquin Valley that has, for decades, experienced intensive agricultural and urban disturbances. Current agricultural endeavors in the region include dairies, groves, and row crops.

Like most of California, the Central San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures usually exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely raise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the proposed Project site is about 10 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain and storm-water readily infiltrates the soils of the surrounding the sites.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region.

The site primarily consists of grassland and loose, recently disked soil. The site is located in an area with rural and single-family residences and vacant/disturbed land surrounding the site.

A Biological Due Diligence (BDD) report was prepared on behalf of the Project H.T. Harvey & Associates in November 2023. The following impact analysis directly references this report. The BDD report can be found in its entirety in Appendix B.

4.4.2 Impact Assessment

a) 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, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact with Mitigation. The proposed Project includes development of 51 single-family residences on an approximately 7.8-acre site, including associated roads, landscaping, and lighting. The site is primarily vacant and highly disturbed, currently supporting disturbed and intact annual and vegetated grassland.

As part of the BDD report, a query of California Natural Diversity Database (CNDDB 20231) records occurring within 5 miles (mi) of the Project site revealed 40 special-status species2 occurrences involving five animal species and five plant species. However, nine of these records are based on observations made over 50 years ago. The more recent records (i.e., those that are dated within the last 50 years) from within 5 mi of the Project site consist of 31 special-status species occurrences (CNDDB 2023); the species represented, with scientific name and number of occurrences in parentheses, are burrowing owl (*Athene cunicularia*; 1 occurrence), Swainson's hawk (*Buteo swainsoni;* 3 occurrences), California tiger salamander (*Ambystoma californiense*, central California Distinct Population Segment; 7 occurrences), western spadefoot toad (*Spea hammondii*; 14 occurrences), vernal pool fair shrimp (*Branchinecta lynchi*; 5 occurrences), and hairy Orcutt grass (*Orcuttia pilosa*; 1 occurrence).

Of the records from within the last 50 years, the occurrences closest to the Project site are for western spadefoot toad and vernal pool fairy shrimp observed 1.1 mi northeast of the Project site in 2017 and the next closest occurrence is for California tiger salamanders observed 1.4 mi northeast of the Project site in 2018. These locations are separated from the Project site by residential and commercial development, and numerous roads that impede movement by amphibians. Four additional special-status species have CNDDB occurrences within 5 mi of the Project

site in what were intact vernal pool grasslands at the time based solely on observations made over 50 years ago: Greene's tuctoria (*Tuctoria greenei*), Munz's tidy-tips (*Layia munzii*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), and shining navarretia (*Navarretia nigelliformis* ssp. *radians*).

No direct evidence of special-status animal or plant species was observed and the site currently provides little or no value to sensitive plants. Conversion of habitat in the Project vicinity from row crop agriculture and pasture to dense residential and commercial development and orchards has altered or eliminated habitat for these species in the Project vicinity. The trees on the property and within one quarter mile were inspected for the presence of nests that could be used by Swainson's hawks and other raptors and none were found.

As such, any impacts would be ***less than significant***.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact. The City's General Plan does not identify riparian or other sensitive natural community within the Project area. Additionally, the Project site has been previously disked and is currently vacant/disturbed, with grasslands and minimal vegetation. As such, any impacts would be ***less than significant.***

Mitigation Measures: None are required.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact There are no state or federally protected wetlands on the Project site. According to the BDD report, there are no vernal pools on the property to provide habitat for vernal pool associated species including vernal pool fairy shrimp or hairy Orcutt grass, or other naturally occurring aquatic habitats that could provide reproductive habitat for California tiger salamander or western spadefoot toad. Records within the last six years for both amphibian species occur over a mile away adjacent to the Santa Fe Railroad tracks and are separated from the project site by residential and commercial development and numerous roadways. Consequently, both species are considered absent from the site due to isolation from occupied habitat and the quality of habitat on the project site. As such, any impacts would be ***less than significant.***

Mitigation Measures: None are required.

d) 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?

Less than Significant Impact with Mitigation. There are no waterways on the proposed site and the area consists of vacant/disturbed land with grassland dominated by nonnative grasses. Wildlife species observed directly on the Project site consisted mostly of common bird species. No additional vertebrate wildlife species or signs of current or prior nesting by raptor species were found within one quarter mile of the Project site. The presence of adjacent suburban developments and the presence of trees further reduces the sites suitability for burrowing owls. The trees on the property and within one quarter mile were inspected for the presence of nests that could be used by Swainson's hawks and other raptors and none were found.

The Project has the potential to impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered a take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird in the Project site or immediately adjacent to the construction zone could constitute a significant effect. Mitigation measure BIO-1 (below) will be included in the conditions of approval to reduce the potential effect to a ***less than significant*** level.

Mitigation Measure:

BIO-1: Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

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

Less than Significant Impact. The City of Madera's General Plan includes various policies for the protection of biological resources. The proposed Project would not conflict with any of the adopted policies and any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant Impact. There are no local, regional, or state conservation plans that apply to the Project. As such, any impacts would be ***less than significant***.

Mitigation Measures: None are required.

4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

4.5.1 Environmental Setting

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

The tribes which inhabited the Madera area generally lived a subsistence life-style that included hunting, fishing and collection of plant resources, particularly acorns. Some of these early inhabitants built a variety of structures including residential dwellings, ceremonial structures, and semi-subterranean sweat lodges. A common dwelling was a thatched house covered by brush, grass or tules.

A variety of flaked and ground stone tools (e.g., knives, arrow and spear points, and rough cobble and shaped pestles) were common among Native Americans in the area. Obsidian was a highly valued material for tool manufacture, and was generally imported. Some local tribes also engaged in trading relationships with surrounding groups for commodities such as salt, marine shells and basketry.

Euroamerican contact with Native American groups living in the Central Valley of California began during the last half of the 18th century. At this time, the attention of Spanish missionaries shifted away from the coast, and its dwindling Native American population, to the missionization of interior populations of Native Americans. The efforts of the Spanish to missionize the Native American population began a history of destructive Euroamerican interactions with Native Americans that eventually lead to the loss of traditional Native American culture.

The proposed Project site has been highly disturbed for many years with residential and/or agricultural uses in varying portions of the site. A Phase I Cultural Resource Study was performed on behalf of the Project by Hudlow Cultural Resource Associates in March 2024. The following impact analysis references this report, which can be found in it's entirety in Appendix C.

4.5.2 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?

Less than Significant Impact with Mitigation. A record search of the Project area and the environs within one half-mile was conducted at the Southern San Joaquin Valley Information Center. Scott M. Hudlow conducted the record search, RS# 24-068, on February 12, 2024. The record search revealed that five cultural resource surveys have been conducted within one half-mile of the Project area. No surveys have previously addressed the parcel in question. Four cultural resources, which are all historic buildings, are located within one half-mile of the current Project area (Appendix C). No cultural resources have previously identified within the current Project area.

One cultural resources was identified, C&B-2. C&B-2 is the foundation from a dwelling. An abandoned well is also present as well as several decorative trees. No additional artifacts were identified, partially due to the thick, dense wet turf grass that covers the site. This residence was demolished before 1982, and will not provide additional elucidation about the settlement of the Madera area. As such, it is not eligible for nomination to the California Register of Historic Resources.

Subsurface construction activities associated with the proposed Project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact; however, implementation of Mitigation Measure CUL-1 will ensure that significant impacts remain ***less than significant with mitigation incorporation.***

Mitigation Measures:

CUL-1 The following measures shall be implemented:

- Before initiation of construction or ground-disturbing activities associated with the Project, the City shall require all construction personnel to be alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources;
- The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and
- If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. City of Madera shall implement said measures.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact with Mitigation. The possibility exists that subsurface construction activities may encounter undiscovered archaeological resources. This would be a potentially significant impact. Implementation of Mitigation Measure CUL-1 would require inadvertently discovery practices to be implemented should previously

undiscovered archeological resources be located. As such, impacts to undiscovered archeological resources would be ***less than significant with mitigation incorporation.***

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. Although unlikely given the highly disturbed nature of the site and the records search did not indicate the presence of such resources, subsurface construction activities associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. The California Health and Safety Code Section 7050.5 states that if human remains are discovered on-site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.

Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites, however compliance with regulations would reduce this impact to ***less than significant***.

Mitigation Measures: None are required.

4.6 Energy

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

4.6.1 Environmental Setting

California's total energy consumption was the second-highest in the nation in 2020, but its per capita energy consumption was less than in all but three other states. In 2022, California was the fourth-largest electricity producer in the nation. The state was also the nation's third-largest electricity consumer. In 2022, renewable resources, including hydroelectric power and small-scale, customer-sited solar power, accounted for 49% of California's in-state electricity generation. Natural gas fueled another 42%. Nuclear power supplied almost all the rest.[8]

Energy usage is typically quantified using the British Thermal Unit (BTU). As a point of reference, the approximately amounts of energy contained in common energy sources are as follows[9]:

Energy Source/Fuel	BTUs
Motor Gasoline	120,214 per gallon
Natural Gas	1,036 per cubic foot
Electricity	3,412 per kilowatt-hour

California energy consumption in 2021 was approximately 6,784.8 trillion BTU, as provided in Table 4-2.[10] This represents an approximately 2.4% decrease from energy consumption in 2020.

[8] California Profile Overview, U.S. Energy Information Administration. https://www.eia.gov/state/?sid=CA. Accessed March 2024.

[9] U.S. Energy Information Administration. Energy Units and Calculators Explained. https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php. Accessed March 2024.

[10] California Profile Overview, U.S. Energy Information Administration. https://www.eia.gov/state/?sid=CA#tabs-2. Accessed March 2024.

Table 4-2
2021 California Energy Consumption

End User	BTU of energy consumed (in trillions)	Percentage of total consumption
Residential	1,228.5	18.2
Commercial	1,156.8	17.1
Industrial	1,597.5	23.6
Transportation	2,802	41.2
Total	6,784.8	--

Total electrical consumption by Madera County in 2022 was 1808.23 GWh[11], while total gas consumption was 48.54 million Therms.[12]

The California Department of Transportation (Caltrans) reports that approximately 35.66 million vehicles were registered in the state in 2022, while in 2021 a total estimated 310.9 billion annual vehicle miles were traveled (VMT).[13]

4.6.2 Impact Assessment

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The proposed residential development is located in a growing part of the City, with the surrounding area consisting of single family and rural residential developments, and vacant/disturbed land. The Project would introduce energy usage on a site that is currently demanding minimal energy. By comparison, at buildout, the Project would consume amounts of energy in both the short-term during Project construction and in the long-term during Project operation.

During construction, the Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. Title 24 Building Energy Efficiency Standards provide guidance on construction techniques to maximize energy conservation and it is expected that contractors and owners have a strong financial incentive to use recycled materials and products originating from nearby sources in order to reduce materials costs. As such, it is anticipated that materials used in

[11] California Energy Commission. Electricity Consumption by County. http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed March 2024.
[12] California Energy Commission. Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed March 2024.
[13] Caltrans Fact Booklet. June 2023. California Department of Transportation. https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/caltrans-fact-booklets/caltransfacts2023a11y.pdf. Accessed March 2024.

construction and construction vehicle fuel energy would not involve the wasteful, inefficient, or unnecessary consumption of energy.

Operational Project energy consumption would occur for multiple purposes, including but not limited to, building heating and cooling, refrigeration, lighting and electronics. Operational energy would also be consumed during each vehicle trip associated with the proposed use. CalEEMod version 2020.4.0 was utilized to generate the estimated energy demand of the proposed Project, and the results are provided in Table 4-3 and in Appendix A.

Table 4-3
Annual Project Energy Consumption

Land Use	Electricity Use in kWh/year	Natural Gas Use in kBTU/year
Single Family Housing	404,886	1,211,910

The proposed Project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of Title 24 standards significantly increases energy savings, and it is generally assumed that compliance with Title 24 ensures projects will not result in the inefficient, wasteful, or unnecessary consumption of energy.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project at full buildout would generate approximately 468.01 average daily vehicle trips. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assist in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

As discussed previously, the proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level. The Project would be subject to energy conservation requirements in the California Energy Code and CALGreen. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to building operation.

Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

4.7.1 Environmental Setting

The subject site is located in the central part of the San Joaquin Valley, which comprises the southern half of the Great Valley geomorphic province. The valley is a westward-titling trough which forms a broad alluvial fan, approximately 200 miles long and 50 to 70 miles wide, where the eastern flank is broad and gently inclined, as opposed to the western flank which is relatively narrow (Bartow, 1991; Page, 1968). The Central Valley consists of the Great Valley Sequence, overlain by Cenozoic alluvium. Underlying the Great Valley Sequence are the Franciscan Assemblage to the west and the Sierra Nevada batholith to the east (Bailey, Irwin, and Jones, 1964).

A Phase I Environmental Site Assessment and a Geotechnical Investigation was performed on behalf of the Project by RMA GeoScience. The following analysis references these reports, which can be found in their entirety in Appendix D and Appendix E, respectively.

According to the SGMA Data Viewer application, groundwater data indicates the depth to groundwater in the vicinity of the Project site is approximately 240 feet in Spring 2023.

4.7.2 Impact Assessment

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

a-ii) Strong seismic ground shaking?

a-iii) Seismic-related ground failure, including liquefaction?

a-iv) Landslides?

Less than Significant Impact. The proposed Project site is not located within the boundaries of an Earthquake Fault Zone for fault rupture hazard as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no faults are known to pass through or near the property. The nearest active earthquake fault zones (evidence of displacement within the past 11,700 years) are the Ortigalita Fault Zone, the Nunez Fault, the San Andreas Fault Zone, the Calaveras Fault Zone, and the Quien Sabe Fault located approximately 47.9 miles west-southwest, 55.6 miles southwest, 65.0 miles southwest, 66.7 miles west-southwest, 67.0 miles west respectively, of the Project site. According to the Geotech Investigation report, the regional geologic and seismic data did not reveal any known instances of ground failure in the vicinity of the site associated with regional seismic activity.

According to the Geotech report (Appendix E), research of regional geologic and seismic data did not reveal any known instances of ground failure in the vicinity of the site associated with regional seismic activity. Seismic design parameters relative to the requirements of the 2022 California Building Code will be applicable to the proposed development.

Since the depth to groundwater at the project site is significantly deeper than 50 feet, according to the Geotech Report (Appendix E), there is a negligible risk of liquefaction occurring at the Project site during a design level seismic event.

The proposed Project site is located on relatively flat topography and is not located adjacent to any steep slopes or areas that would otherwise be subject to landslides. There are no cut or fill slopes that currently exist or are planned at the proposed Project site. In addition, there are no natural or manmade slopes in the vicinity of the site; therefore, the potential for landslides is negligible. The impact is ***less than significant***.

Mitigation Measures: None are required.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. According to the Geotech report (Appendix E), the subsurface exploration performed for this Project indicated the native soil profile at the site primarily consisted of sandy silt and silty sand with varying amounts of clay and cementation. The site consists of Cometa sandy loam, Alamo clay, and San Joaquin sandy loam soils.

The Project site has a generally flat topography, is in a growing urban area surrounded by residential subdivisions, rural residences, and vacant/disturbed land. Runoff from the Project site during the construction period will be covered by the General Construction permit issued by the State of California Water Resources Control Board; the Contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control. Therefore, the impact is ***less than significant***.

Mitigation Measures: None are required.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. Per the Geotech report (Appendix E), the California Geological Survey has not yet prepared a Seismic Hazard Zone Map of potential liquefaction hazards for the quadrangle in which the site is located. In addition, there are no liquefaction hazard zones near the site according to the Fresno County General Plan. Based on the review of geological literature and the field exploration performed for this Project, the Geotech report did not indicate any unusual conditions at the site that would entail special design considerations or construction procedures.

In addition, the site is not identified in an area of large historic subsidence within the California Central Valley. The soil on site would not become unstable as a result of the Project or result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The Geotech report includes to address the soil conditions at the site and provide information for the developer/applicant to prepare the project plans and specifications for the planned improvements. See also responses a. and b. There is a ***less than significant impact.***

Mitigation Measures: None are required.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. According to the Geotech report, the Project area surface soils have a low expansion potential. The proposed development will be required to comply with the Uniform Building Code for the Project. The impact is ***less than significant***.

Mitigation Measures: None are required.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. According to the Phase I ESA report, no stormwater retention basins are on or adjacent to the proposed site. No industrial wastewater exists on the site and there are no wastewater treatment facilities located on or near the site. No features associated with a septic system were observed on the site as well. The proposed Project development will tie into the City's existing wastewater system and will not require installation of a septic tank or alternate wastewater disposal system. There is ***no impact.***
Mitigation Measures: None are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact with Mitigation. There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of ***less than significant with mitigation incorporation***.

Mitigation Measures:

CUL-2 City of Madera will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at City of Madera, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the City shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.

4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

4.8.1 Environmental Setting

Various gases in the earth's atmosphere play an important role in moderating the earth's surface temperature. Solar radiation enters earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs are transparent to solar radiation, but are effective in absorbing infrared radiation. Consequently, radiation that would otherwise escape back into space is retained, resulting in a warming of the earth's atmosphere. This phenomenon is known as the greenhouse effect. Scientific research to date indicates that some of the observed climate change is a result of increased GHG emissions associated with human activity.

Among the GHGs contributing to the greenhouse effect are water vapor, carbon dioxide (CO2), methane (CH4), ozone, Nitrous Oxide (NOx), and chlorofluorocarbons. Human-caused emissions of these GHGs in excess of natural ambient concentrations are considered responsible for enhancing the greenhouse effect. GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors.

In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Global climate change is, indeed, a global issue. GHGs are global pollutants, unlike criteria pollutants and TACs (which are pollutants of regional and/or local concern). Global climate change, if it occurs, could potentially affect water resources in California. Rising temperatures could be anticipated to result in sea-level rise (as polar ice caps melt) and possibly change the timing and amount of precipitation, which could alter water quality. According to some, climate change could result in more extreme weather patterns; both heavier precipitation that could lead to flooding, as well as more extended drought periods. There is uncertainty regarding the timing, magnitude, and nature of the potential changes to water resources as a result of climate change; however, several trends are evident.

Snowpack and snowmelt may also be affected by climate change. Much of California's precipitation falls as snow in the Sierra Nevada and southern Cascades, and snowpack represents approximately 35 percent of the state's useable annual water supply. The snowmelt typically occurs from April through July; it provides natural water flow to streams and reservoirs after the annual rainy season has ended. As air temperatures increase due to climate change, the water stored in California's snowpack could be affected by increasing temperatures resulting in: (1) decreased snowfall, and (2) earlier snowmelt.

City of Madera adopted a Climate Action Plan (CAP) in September 2015, which is a long-range plan to reduce greenhouse gas (GHG) emissions from City government (municipal) and community-wide activities within the City of Madera and prepare for the anticipated effects of climate change.[14]

4.8.2 Impact Assessment

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The proposed Project would generate GHG emissions which contribute to global warming. Construction related GHG emissions are one-time, short-term emissions and would not contribute to long-term cumulative GHG impacts in the air basin. Long-term emissions would be from vehicle emissions, indirect emissions from energy consumption, and solid waste generated by the proposed Project.

According to the CalEEMod output files (Appendix A), the Project will produce the following CO2:

- 2024 Project Construction: 237.21 MT/yr
- 2025 Project Construction: 156.23 MT/yr
- Total Project Construction Emissions: 393.44 MT/yr
- Total Project Operational Emissions: 596.85 MT/yr

Amortizing the total construction CO2 emissions over a 30-year period results in approximately 13.12 MT/yr. Adding the amortized construction emissions to the total operational emissions results in approximately 609.97 MT/yr.

The City has an adopted Climate Action Plan (CAP) that includes 2020 and 2030 emission forecasts and reduction targets with a 2030 horizon and is in alignment with State policies, including Executive Order B-30-15 and SB 32. To evaluate a proposed Project's consistency with the CAP, the City has developed the CAP consistency worksheet which is designed to help the City determine if a project is consistent with the CAP but does not define which measure would need to be implemented for the consistency determination, as requirements may vary by project type. Projects that demonstrate consistency with the CAP are considered less than significant in terms of the contribution of GHG Emissions. The proposed Project's consistency with the CAP consistency worksheet is summarized in Table 4-4 below, and demonstrates that the proposed Project would be largely consistent with applicable policies outlined in the City's CAP.

Table 4-4
CAP Consistency Analysis

[14] City of Madera Climate action Plan. September 2015. https://www.cityofmadera.ca.gov/wp-content/uploads/2017/08/Final-Madera-CAP_September-2015.pdf. Accessed March 2024.

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
E-2 Energy Efficient New Construction	Is the project consistent with applicable policies of the Conservation Element of the General Plan?	Yes	The Project will be consistent with the topics included in the Conservation Element of the General Plan, such as Water Supply and Quality, and Energy and Energy Efficiency, as analyzed throughout this document. The analyses included in respective sections of this Initial Study, such as 4.2 Agriculture, 4.6 Energy, and 4.7 Geology, demonstrate compliance with the goals and policies of the Conservation Element and the General Plan.
	Does the project exceed Title 24 Energy Efficiency Building Standards, meet the state's Green Building Standards voluntary tier levels, or is LEED Greenpoint, or ENERGY STAR rated?	Yes	According to the latest Building Energy Efficiency Standards, as outlined by the California Energy Commission, buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code. Given that the City's Climate Action Plan was adopted in 2015, it is expected that the Project development will exceed the requirements outlined in the CAP.
E-3 On-Site Small-Scale Renewable Energy	Does the project include solar PV systems or solar hot water heaters?	Yes	The proposed development will comply with the latest 2022 Energy Code, which encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more.
T-1 Infill and Mixed-Use Development	Is the project consistent with the land use designation(s) shown on the General Plan Land Use Map and with the applicable polies of the Land Use Element of the General Plan policies?	Yes	As analyzed in section 4.11 of this Initial Study, the site is within the City limits of Madera. The site is designated by the City of Madera's General Plan as LD (Low Density Residential), such as the proposed Project. The residential units planned as part of the proposed Project are

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
			within the allowed density range. The site is zoned as Residential PD (4500), which refers to One unit for each 4,500 sq. ft., such as the proposed development.
	Is the project consistent with the Madera County Blueprint?	Yes	The San Joaquin Valley Blueprint provides a plan for the future of transportation and land use in the San Joaquin Valley to the Year 2050. The San Joaquin Valley Blueprint provides an Action Plan and Implementation Strategy which includes six principles to guide future growth decisions for the County. The Proposed Project conforms with the six principles provided in the Action Plan and Implementation Strategy.
	Does the project include mixed- use, higher density (22.5 to 50 units per acre), or infill development?	No	The proposed Project includes development of 51 single-family residences, with the zoning of PD 4500, defined as one unit per each 4,500 sq.ft. It is not an infill development, mixed-use, or higher density.
	Is the project located within 1/4 mile of transit stops or in existing community centers/downtown?	Yes	The City has public transit service called Madera Metro which operates fixed-route transit services. The Project is located approximately 0.14 miles to the east of the bus stop at the Las Brisas Apartments on Adell Street.
T-2 Bicycle and Pedestrian Environment	Is the project consistent with applicable policies of the Community Design and Circulation Elements of the General Plan?	Yes	The Project will be consistent with the applicable policies of the Community Design and Circulation Elements of the General Plan as analyzed in section 17 of the Initial Study. The Project site is located along Collector streets per City's GP Circulation Master Plan (GP Fig. CI-1)

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
	Is the project consistent with the Bicycle Master Plan?	Yes	According to the Madara County Transportation Commission's Interactive Bike Map, there are proposed Class II bike lanes along N. D Street and Adell Street at the proposed Project site.
	Does the project meet minimum design criteria for bicycle and pedestrian circulation?	Yes	The proposed Project development is subject to review and approval by the City Engineer, including for transportation and circulation design standards.
	Does the project provide adequate and secure bicycle parking?	N/A	The proposed Project includes residential development.
T-3 Transit Travel	Is the project consistent with applicable policies of the Circulation and Community Development Elements of the General Plan?	Yes	Applicable policies of the Community Design Element and the Circulation Element of the General Plan relate to designing new development to be walkable pedestrian- and bicycle-oriented development. Currently, no sidewalks exist along D St or Adell Streets; however, the proposed Project includes the installation of sidewalks along the site's frontage.
	Does the project provide safe routes to adjacent transit stops, where applicable?	Yes	Installation of sidewalks along the site's perimeter will provide a safe route for residents to walk to the nearest bus stop to the west.
	Does the project finance and/or construct bus turnouts and shelters where transit demand warrants such improvements?	N/A	
	Does the project provide public transit vouchers to its employees?	N/A	The proposed Project includes development of single-family residences

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
T-4 Commute Trip Reduction	Is the project consistent with applicable policies of the Community Development Element of the General Plan?	N/A	The proposed Project includes development of single-family residences
	Does the project include and/or promote TDM programs?	N/A	The proposed Project includes development of single-family residences
T-5 Traffic Flow and Vehicle Idling	Does the project include measures to improve traffic flow?	Yes	The proposed Project includes three points of ingress/egress – at N. D Street, Austin Street and Adell Street.
T-6 Low Carbon Fuel Vehicles and Infrastructure	Is the project consistent with applicable policies of the Community Development Element of the General Plan?	N/A	The proposed Project includes development of single-family residences
	Is the project consistent with the San Joaquin Valley Plug-in Electric Vehicle (PEV) Readiness Plan?	Yes	According to the latest Building Energy Efficiency Standards, as outlined by the California Energy Commission, buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code. Given that the City's Climate Action Plan was adopted in 2015, it is expected that the Project development will meet or exceed the requirements of San Joaquin Valley Plug-in Electric Vehicle (PEV) Readiness Plan.
	Does the project include alternative fueling stations or EV charging stations?	N/A	The proposed Project includes development of single-family residences

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
T-7 Construction and Off-Road Equipment	Would construction of the project use alternatively fueled construction vehicles/equipment (i.e., repowered engines, electric drive trains, CARB-approved low carbon fuel, electrically-powered)?	Yes	The Proposed Project would use alternatively fueled construction vehicles/equipment (i.e., repowered engines, electric drive trains, CARB-approved low carbon fuel, electrically powered) to the extent feasible.
	Would the project include low-maintenance native landscaping or xeriscaping?	Yes	The Project will comply with Landscaping and other site design element, which are also subject to review and approval of City Planning Department.
W-1 Exceed SB X7-7 Water Conservation Target	Does the project incorporate water efficiency and water conservation measures?	Yes	The Project will comply with the California Building Standards Code (Title 24), including the Model Water Efficient Landscape Ordinance. The Project will be subject to the City and State's ongoing water conservation efforts.
W-2 Recycled Water	Is the project consistent with applicable policies of the Conservation Element of the General Plan?	Yes	The Project will comply with the California Building Standards Code (Title 24), including the Model Water Efficient Landscape Ordinance
	Does the project incorporate recycled/reclaimed water?	N/A	The City has not implemented a recycle/reclaimed water program or infrastructure.
U-1 Trees and Vegetation	Is the project consistent with applicable policies of the Community Design Element of the General Plan?	Yes	The proposed Project will be consistent with Policy CON-2 as it must meet Title 24 standards and implement State water efficient landscape standards. The proposed development is subject to review and approval by the City's Planning

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details*
			Department to verify compliance with the Community Development Element of the GP.
	Does the project include the planting of new trees or new acres of vegetated land?	Yes	The proposed development includes the planting of new trees as part of the landscaping plan, which will be reviewed and approved by the City's Planning Department.

As demonstrated in the CAP Consistency Worksheet, the proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in a ***less than significant*** impact.

Mitigation Measures: None are required.

4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

4.9.1 Environmental Setting

The proposed Project site is located in the northern part of the City of Madera, in a mix of urban and rural area, surrounded by residential housing and vacant/disturbed land. Single-family residences exist to the west of the site, with a church located to the south. Rural residences exist to the southeast, northeast, and northwest. Vacant/disturbed land uses also exist to the north and south.

The site is approximately 0.22 miles southwest of James Monroe Elementary School, approximately 0.45 miles south of the Jack Desmond Middle School and Nishimito Elementary School, approximately 0.58 miles southeast of Matilda Torres High School, and 0.72 miles southwest of John J. Pershing Elementary school. The Project site is approximately 2.1 miles east of the Madera Municipal Airport. Fresno-Yosemite International Airport is the closest regional airport to the proposed Project site, approximately 21 miles southeast.

A Phase I Environmental Site Assessment (Phase I) was prepared by RMA GeoScience. for the proposed Project and the findings are utilized and summarized herein. The entire Phase I report can be found in Appendix D.

4.9.2 Impact Assessment

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. This impact is associated with hazards caused by the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Proposed Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the Project site. Therefore, no significant impacts would occur during construction activities.

It is anticipated that the proposed Project would not be a large-quantity user of hazardous materials. Residential land uses do not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials. Small quantities of hazardous materials would be used onsite, including cleaning solvents (e.g., degreasers, paint thinners, and aerosol propellants), paints (both latex- and oil-based), acids and bases (such as many cleaners), disinfectants, and fertilizers. The potential risks posed by the use and storage of these hazardous materials are primarily limited to the immediate vicinity of the materials. As such, these materials are not expected to expose human health or the environment to undue risks associated with their use.

Any accumulated hazardous construction or operational wastes will be collected and transported away from the site in compliance with all federal, state and local regulations. The proposed residences are not a typical source of hazardous materials, thus it wouldn't create a significant hazard to the public involving release of hazardous materials. Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be ***less than significant***.

Mitigation Measures: None are required.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. The site is approximately 0.22 miles southwest of James Monroe Elementary School, approximately 0.45 miles south of the Jack Desmond Middle School and Nishimito Elementary School, approximately 0.58 miles southeast of Matilda Torres High School, and 0.72 miles southwest of John J. Pershing Elementary school. As the proposed Project includes the development of single-family residences, it is not reasonably foreseeable that the proposed Project will cause a significant impact by emitting hazardous waste or bringing hazardous materials near a proposed or existing school. Residential land uses do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials. See also Responses IX(a) and IX(b) regarding hazardous material handling. The impact is ***less than significant.***

Mitigation Measures: None are required.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. Based on the Phase I Environmental Site Assessment, no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) were identified in connection with the proposed site. No hazardous substances and petroleum containers or products were observed on the proposed site as part of the Phase ESA. No features associated with Underground Storage Tanks were observed on the site. As such, the impacts will be ***less than significant.***

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Project site is approximately 2.1 miles east of the Madera Municipal Airport. Fresno-Yosemite International Airport is the closest regional airport to the proposed Project site, approximately 21 miles southeast. The proposed Project is outside any safety zone or noise contour. There are no private airstrips in the Project vicinity and as such, there is ***no impact***.

Mitigation Measures: None are required.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed Project involves construction of a residential subdivision. Construction activities will be temporary in nature and will not cause any road closures that could interfere with any adopted emergency response or evacuation plan. The construction contractor will be required to work with the City and County (public works, police/fire, etc.) if and when roadway diversions are required to ensure that adequate access is maintained for residents and emergency vehicles. As such, there will be ***less than significant impacts***.

Mitigation Measures: None are required.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. There are no wildlands on or near the Project site. The site is substantially surrounded by urban development and vacant/disturbed land uses. There is ***no impact***.

Mitigation Measures: None are required.

4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

4.10.1 Environmental Setting

The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The sole source of water supply for the City of Madera is the Madera sub-basin of the San Joaquin Valley Groundwater Basin. The quality of the water from the aquifer is considered to be of good quality and does not require additional treatment at this time.

A Phase I Environmental Site Assessment and a Geotechnical Investigation was performed on behalf of the Project by RMA GeoScience. The following analysis references these reports, which can be found in their entirety in Appendix D and Appendix E, respectively.

4.10.2 Impact Assessment

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. The proposed Project includes development of 51 single-family residential units, including access streets, lighting, landscaping, and other site improvements, on an approximately 7.8-acre site.

Construction

Although the proposed Project site is relatively small in scale, grading, excavation and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

Three general sources of potential short-term construction-related stormwater pollution associated with the proposed Project are: 1) the handling, storage, and disposal of construction materials containing pollutants; 2) the maintenance and operation of construction equipment; and 3) earth moving activities which, when not controlled, may generate soil erosion and transportation, via storm runoff or mechanical equipment. Generally, routine safety precautions for handling and storing construction materials may effectively mitigate the potential pollution of stormwater by these materials. These same types of common sense, “good housekeeping” procedures can be extended to non-hazardous stormwater pollutants such as sawdust and other solid wastes.

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination. In addition, grading activities can greatly increase erosion processes. Two general strategies are recommended to prevent construction silt from entering local storm drains. First, erosion control procedures should be implemented for those areas that must be exposed. Secondly, the area should be secured to control offsite migration of pollutants. These Best Management Practices (BMPs) would be required in the Stormwater Pollution Prevention Plan (SWPPP) to be prepared prior to commencement of Project construction. When properly designed and implemented, these “good-housekeeping” practices are expected to reduce short-term construction-related impacts to less than significant.

In accordance with the National Pollution Discharge Elimination System (NPDES) Stormwater Program, the Project will be required to comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the Regional Water Quality Control Board (RWQCB) has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement.

Operation

The proposed Project will result in wastewater from residential units that will be discharged into the City's existing wastewater treatment system. The wastewater will be typical of other urban/residential developments consisting of bathrooms, kitchen drains, and other similar features. The Project will not discharge any unusual or atypical wastewater.

Additionally, there will be no discharge to any surface or groundwater source. As such, the proposed Project will not violate any water quality standards and will not impact waste discharge requirements or otherwise substantially degrade surface or ground water quality. The impact will be ***less than significant***.

Mitigation Measures: None are required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The site has been planned for residential development in the General Plan and as such, has been accounted for in the City infrastructure planning documents. The Project does not include new physical disturbance beyond the proposed residential uses. Additionally, Project demands for groundwater resources would not substantially deplete groundwater supplies and/or otherwise interfere with groundwater recharge efforts being implemented by the City of Madera. Future demand can be met with continued groundwater pumping, surface water purchases and conservation measures. Impacts on groundwater supplies and groundwater recharge would be less than significant and would not impede sustainable groundwater management of the basin. As such, there is ***a less than significant impact*** to this impact area.

Mitigation Measures: None are required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) impede or redirect flood flows?

Less Than Significant Impact. Less Than Significant Impact. The Project site is currently vacant and is routinely disked for weed control. The proposed Project will change drainage patterns of the site through the installation of impervious surfaces and structures (houses, driveways, streets, etc.) and will be required by the City to be graded to facilitate proper stormwater drainage into the City stormwater system. Storm runoff from this Project shall be directed to the Sherwood Basin located south of this Project site in accordance with the Adell Street Improvement Project. Runoff volume calculations will be provided and the developer shall be required to excavate the basin to an amount equivalent to this Project impact on the basin.

The planned County-owned basin on Ellis Street is identified as being able to accommodate the majority of development activity in proximity to the application site, including the recently approved Arc development site to the west.

Any flood flows created by the increase of impervious surface will be directed into the stormwater basin and will not create significant impacts. Storm water during construction will be managed as part of the Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP will be retained on-site during construction.

The entire proposed Project site is located within the FEMA Flood Zone "X", Area of Minimal Flood Hazard.[15] The eastern portion of the site is within the FIRM panel 06039C1160E, and the western portion is in 06039C1155E, both maps effective 9/26/2008. The residential units will be built in accordance with the current California Building Code. Accordingly, the chance of flooding (and therefore the release of pollutants due to flooding) at the site is remote.

Mitigation Measures: None are required.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. As discussed in Impact X(c), The proposed Project site is located in an area of minimal flood hazard. The site will be designed for adequate storm drainage and will be required to prepare and submit a water quality control plan to be implemented during construction, as required by the National Pollutant Discharge Elimination System (NDPES). This plan must be reviewed and approved by the City Engineer prior to the start of construction.

There are no inland water bodies that could be potentially susceptible to a seiche in the Project vicinity. This precludes the possibility of a seiche inundating the Project site. The Project site is more than 100 miles from the Pacific Ocean, a condition that precludes the possibility of inundation by tsunami. There are no steep slopes that would be susceptible to a mudflow in the Project vicinity, nor are there any volcanically active features that could produce a mudflow in the City of Madera. This precludes the possibility of a mudflow inundating the Project site.

Mitigation Measures: None are required.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. The proposed Project would not compromise water quality control. Project implementation would require Statewide NPDES permits for construction runoff. Stormwater will be sent to the City stormdrain which is sent to retention basins, which serves to recharge groundwater and the City. This process would allow multi-generational use by returning water back in the aquifer which would ultimately help with the implementation of the sustainable groundwater management plan.

Any impacts are ***less than significant***.

Mitigation Measures: None are required.

[15] National Flood Hazard Layer Viewer, Federal Emergency Management Agency. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed November 2023.

4.11 Land Use and Planning

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

4.11.1 Environmental Setting

The proposed site is located in the northern part of the City of Madera. Surrounding land uses consist of:

Direction	Existing Use
North	Vacant/disturbed land
East	Vacant/disturbed land
South	Vacant/disturbed land, rural residence, Church
West	Single-family residential subdivision

4.11.2 Impact Assessment

a) Would the project physically divide an established community?

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project site is located southeast of N. D Street and Adell Street along the northern edge of the City limits of Madera, on APNs 004-170-009, -10 and -20. To accommodate the Project a Tentative Subdivision Map approval for the entire site will be needed. The majority of the site is vacant and heavily disturbed. The Project site is currently zoned and designated in the General Plan for residential uses by the City of Madera, such as the proposed Project. Therefore, construction and operation of the Project would be in compliance with the land use plan, policy or regulation and it would not cause any land use changes in the surrounding vicinity nor would it divide an established community. There is ***no impact***.

Mitigation Measures: None are required.

4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

4.12.1 Environmental Setting

The California Geological Survey (CGS) is responsible for the classification and designation of areas within California containing or potentially containing significant mineral resources. The CGS classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geologic Board, as mandated by the Surface Mining and Reclamation Act of 1975. These MRZs identify whether known or inferred significant mineral resources are presented in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their general plans resource. According to the findings of the City General Plan Update EIR and the Department of Conservation Division of Mine Reclamation, the City does not contain any State or locally designated mineral resources

4.12.2 Impact Assessment

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. According to the City of Madera General Plan, the proposed Project area is not included in a State classified mineral resource zones. Additionally, it is not delineated on a local general plan, specific plan, or other land use plan. Soil disturbance for the proposed Project would be limited site groundwork such as grading, foundations, and installation of infrastructure. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

4.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 Environmental Setting

An Acoustical analysis report was prepared on behalf of the Project by WJV Acoustics. The following setting directly references this report, which can be found in it's entirety in Appendix F.

The Project site is located south of Adell Street, between N. D Street and Austin Avenue. N. D Street is considered an arterial roadway. The Project site is exposed to traffic noise associated with vehicles along N. D Street, and to a lesser extent along Adell Street and Austin Avenue. However, due to relatively low traffic volumes along both Austin Avenue and Adell Street, these roadways are not part of the Madera CTC traffic model significant roadway network. Noise levels associated with traffic on these roadways is not considered to be a significant source of Project site noise exposure. As such, this analysis focuses on traffic noise exposure associated with vehicles on N. D Street.

Table 4-5 provides the City of Madera noise level standards for transportation noise sources.[16]

[16] Acoustical Analysis, Colett-Martin Subdivision, WJV Acoustics. November 2023.

Table 4-5
Exterior Noise Compatibility Guidelines For Noise From All Sources, Including Transportation Noise
(24-Hour Day-Night Average [Cnel/Ldn])

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
All Residential (Single- and Multi-Family)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Commercial	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	(1)
Public Parks (Lands designated as Open Space on which public parks are located or planned)	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA

Table 4-6
Exterior Noise Level Standards For Non-Transportation Noise
Measured As dBA Leq (30 Minutes)

Land Use Type	Time Period	Maximum Noise Level (dBA)
Single-Family Homes and Duplexes	10 p.m. to 7 a.m.	50
	7 a.m. to 10 p.m.	60
Multiple Residential 3 or More Units Per Building (Triplex +)	10 p.m. to 7 a.m.	55
	7 a.m. to 10 p.m.	60

Note: Leq (Equivalent Sound Level) is the average noise level during the time period of the sample.

4.13.2 Impact Assessment

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impacts.

Short-term (Construction) Noise Impacts

Proposed Project construction related activities will involve temporary noise sources. Typical construction related equipment includes graders, trenchers, small tractors and excavators. During the proposed Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. Table

4-7 indicates the anticipated noise levels of the typical construction-related equipment (i.e., graders, trenchers, tractors) based on a distance of 50-feet between the equipment and the sensitive noise receptor.[17]

Table 4-7
Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Dozer	85
Generator	82
Grader	85
Jack Hammer	88
Loader	85
Paver	85
Truck	84

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion.

Long-term (Operational) Noise Impacts

The primary source of on-going noise from the Project will be from vehicles traveling on internal access roads and from traffic traveling along Adell Street and North D Street. The Project will result in an increase in traffic on some roadways in the Project area. However, the relatively low number of new trips associated with the Project is not likely to increase the ambient noise levels by a significant amount. Given the amount of existing vehicular activity in the Project area, the moderate increase in traffic associated with the new residential development (487 average daily trips, Appendix A), is not expected to increase ambient noise levels significantly. The area is active with vehicles, residential housing, and agricultural land uses, so the proposed Project will not introduce a new significant source of noise that isn't already occurring in the area. Impacts are ***less than significant.***

Mitigation Measures: None are required.

[17] The Noise and Vibration Impact Assessment Manual, Federal Transit Administration, U.S. Department of Transportation. September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Table 7-1. Accessed November 2023.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact.

Vibration Levels

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. Construction associated with the proposed Project includes development of 51 single-family residences across a 7.8-acre site, along with associated internal access roads, street lighting, site landscaping and additional related improvements.

The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day. Table 4-8 describes the typical construction equipment vibration levels.[18]

Table 4-8
Typical Construction Vibration Levels

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the Federal Transit Administration (FTA) threshold for the nearest residences which are located to the west and south of the Project site. Operations will be typical of a residential development and will not involve equipment that would generate substantial groundborne vibration of ground borne noise levels.

Therefore, the impact is considered ***less than significant.***

Mitigation Measures: None are required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is approximately 2.1 miles east of the Madera Municipal Airport. The Project is not located within an airport land use plan. Therefore, there is **no impact**.

[18] Ibid.

4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

4.14.1 Environmental Setting

According to the most recent Department of Finance data, the City of Madera's population as of 1/1/2023 was 65,540. There were approximately 18,538 total housing units in the City, with approximately 3.62 persons per household.[19]

4.14.2 Impact Assessment

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. According to the City's EIR, both the City of Madera and the Planning Area have experienced substantial population growth from 1990-2008[20]. City of Madera's population during the adoption of the General Plan in 2008 was 56,710[21], and the current population is 65,540. This represents an approximate increase of 15.6%. Estimates for 2023 shows that the City has 18,538 housing units with an average of 3.62 people per household.[22] There are 51 new single-family homes associated with the proposed Project and the existing single-family residential structure will remain on site. The site would provide additional housing for approximately

[19] Population and Housing Estimates for Cities, Counties, and the State, 2020-2023. California Department of Finance, May 2023. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/. Accessed March 2024.

[20] City of Madera General Plan Environmental Impact Report, May 2009. Page 7.0-2.

[21] Ibid.

[22] Ibid.

185 people. This is a relatively small population gain and is not expected to affect any regional population, housing or employment projections anticipated by City documents.

Additionally, the site is designated as Residential by the City's General Plan and as such, the increase in population has been planned for. The proposed Project will alleviate some overcrowding in the regional population by contributing reliable housing, and will additionally provide temporary construction jobs to the local workforce. In conclusion, the Project implementation will not displace substantial numbers of people and instead provide needed housing. Any impacts are considered ***less than significant***.

Mitigation Measures: None are required.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less Than Significant Impact. The proposed site is primarily vacant. As noted earlier, the Project consists of development of 51 single-family residences along with associated site improvements. The Project is not anticipated to displace existing people or housing. Any impacts are considered ***less than significant***.

Mitigation Measures: None are required.

4.15 Public Services

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

4.15.1 Environmental Setting

The proposed Project is the construction and operation of 51 single-family residences on an approximately 7.8-acre site in the northern part of the City of Madera. The proposed Project site is located in a mix of urban and rural area, surrounded by residential housing and vacant/disturbed land. Single-family residences exist to the west of the site, with a church located to the south. Rural residences exist to the southeast, northeast, and northwest. Vacant/disturbed land uses also exist to the north and south.

4.15.2 Impact Assessment

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection:

Less than Significant Impact. The Madera City Fire Department is administered by the California Department of Forestry and Fire Protection (CDF) pursuant to a cooperative fire protection agreement. Services include fire prevention and suppression, emergency medical assistance, rescue, public assistance, fire menace standby, safety inspections, and review of building plans for compliance with applicable codes and ordinances. According to the City's GP, there are two City fire stations, located at 317 North Lake and 200 South Schnoor, are staffed 24 hours a day. The Fire Department staffs two fire engines and one mini-pumper. One of the engines features a 50' tele-squirt aerial ladder. In addition to these stations, two County of Madera stations serve portions of the Planning Area. [23]

Upon approval of annexation, prezoning, Tentative Subdivision Map, and Precise Plan, the Project site will be serviced by the Fire Department. The Project would be required to comply with all applicable fire and building safety codes (California Building Code and Uniform Fire Code) to ensure fire safety elements are incorporated into final Project design, including the providing designated fire lanes marked as such. Proposed interior streets will be required to provide appropriate widths and turning radii to safely accommodate emergency response and the transport of emergency/public safety vehicles. The Project will also be designed to meet Fire Department requirements regarding water flow, water storage requirements, hydrant spacing, infrastructure sizing, and emergency access. As a result, appropriate fire safety considerations will be included as part of the final design of the Project. The proposed Project at full buildout will add to the number of "customers" served, however, the Fire Department has capacity for the additional service need. No additional fire equipment, personnel, or services are anticipated to be required by Project implementation. In addition, the Project applicant will be required to pay all associated impact fees related to public services, including fire. As such, any impacts are ***less than significant***.

Police Protection

Less than Significant Impact. Police services are provided by the Madera Police Department. The Police Department has two divisions—Administrative Services and Operations—that provide a wide variety of law enforcement services, ranging from investigations to traffic patrols to school liaison. According to the 2019 Annual Report, the Department had 70 sworn personnel and 34 nonsworn personnel.[24] Implementation of the proposed Project would result in an increase in demand for police services; however, this increase would be minimal compared to the number of officers currently employed by the Madera Police Department and would not trigger the need for new or physically altered police facilities. No additional police personnel or equipment is anticipated. In addition, each home will be assessed a public safety impact fee by the City that is used to make capital improvements for the Police Department. The proposed site has been designated by the General Plan and zoned for residential purposes. The impact is **less than significant.**

Schools

Less than Significant Impact. The proposed Project site is located within the Madera Unified School District. The site is approximately 0.22 miles southwest of James Monroe Elementary School, approximately 0.45 miles south of the Jack Desmond Middle School and Nishimito Elementary School, approximately 0.58 miles southeast of Matilda Torres High School, and 0.72 miles southwest of John J. Pershing Elementary school. Pursuant to California Education Code Section 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The Project applicant would be required to pay such fees to reduce any impacts of new residential development of school services. Payment of the developer fees will offset the addition of school-age children within the district.

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[23] Ch. 6 Health and Safety Element, City of Madera General Plan. October 2009. Pg 6-15.

[24] Annual Report 2019, City of Madera Police Department. https://www.madera.gov/wp-content/uploads/2020/10/PD-Annual-Report-Final.pdf. Accessed November 2023.

While development of the 51 residential units alone is not expected to require the alteration of existing or construction of new school facilities, the development will contribute to the cumulative need for increased school facilities. The timing of when new school facilities would be required or details about size and location cannot be known until such facilities are planned and proposed, and any attempt to analyze impacts to a potential future facility would be speculative. As the future new school facilities are further planned and developed, they would be subject to their own separate CEQA review in order to identify and mitigate any potential environmental impacts. As such, any impacts would be ***less than significant.***

Parks

Less than Significant Impact. The City of Madera provides its residents several types of parks and recreational facilities. The Parks and Community Services Department team supervises and maintains area parks, the municipal golf course, and other local landscape. The City also coordinates a wide variety of recreation and leisure services for both youth and adults. According to the City's General Plan, there are more than 320 acres of parks and recreation areas within the City limits. The closest park to the proposed site is the Pan-American Park, located approximately 0.2 miles to the southeast. The Project will also be required to pay City Park facility impact fees to compensate for any service demand increase on existing parks within the Madera area. The Project applicant would be required to comply with the Municipal Code and Ordinances. As such, any impacts would remain ***less than significant.***

Other public facilities

Less than Significant Impact. The proposed Project is within growth projections identified in the City's General Plan and other infrastructure studies. As such, the Project would not result in increased demand on other public facilities such as library services that has not already been planned for. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

4.16 Recreation

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

4.16.1 Environmental Setting

The City of Madera provides its residents several types of parks and recreational facilities. According to the City's General Plan, there are more than 320 acres of parks and recreation areas within the City limits. The City's neighborhood parks are predominately located in the eastern half of the City.[25]

4.16.2 Impact Assessment

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact. The City of Madera provides its residents several types of parks and recreational facilities. The Parks and Community Services Department team supervises and maintains area parks, the municipal golf course, and other local landscape. The Department also coordinates a wide variety of recreation and leisure services for both youth and adults. According to the City's General Plan, there are more than 320 acres of parks and recreation areas within the City limits. The closest park to the proposed site is the Pan-American Park, located approximately 0.2 miles to the southeast.

The proposed Project consists of development of 51 single-family residences and other associated improvements. However, the increase of approximately 185 persons resulting from the Project would have a relatively small impact on existing recreational facilities. In order to implement the goals and objectives of the City's General Plan, and to mitigate the impacts caused by future development in the City, park facilities must be constructed. The City Council has determined that a Park Facilities Fee is needed in order to finance these public facilities and to pay for each

[25] Ch. 11 Parks and Recreation Element, City of Madera General Plan. October 2009. Pg 11-2.

development's fair share of the construction and acquisition costs. The Project Applicant will be required to pay development impact fees as determined by the City of Park Facilities Fees. The Project will still be required to pay City park facility impact fees, as required. Therefore, impacts are considered ***less than significant.***

Mitigation Measures: None are required.

4.17 Transportation

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)??	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

4.17.1 Environmental Setting

The proposed Project site is located in the northern part of the City of Madera, in a mix of urban and rural area, surrounded by residential housing and vacant/disturbed land. Single-family residences exist to the west of the site, with a church located to the south. Rural residences exist to the southeast, northeast, and northwest. Vacant/disturbed land uses also exist to the north and south. The site is bounded by North D Street to the west and Adell Street to the north, both of which are collector roads. Austin Street bounds the site to the east and is considered a local road.

4.17.2 Impact Assessment

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than Significant Impact. The proposed development is located in an area consisting of similar single family and rural residential developments, and vacant/disturbed land. As such, the proposed residential Project is considered a typical project within the area and is not expected to significantly increase traffic volumes. The Project would not conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities. The Project is required to submit improvement plans, including roadway improvements, for review and approval by the City Engineer to ensure improvements will be consistent with City standards. Impacts will be ***less than significant.***

Mitigation Measures: None are required

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

Less than Significant Impact. The proposed Project could generate up to 487 average daily vehicle trips (ADT), modeled using CalEEMod ver. 2020.4.0 (output files provided in Appendix A). For project-level analysis, the California Office of Planning and Research (OPR) provides guidance on determining significant thresholds to assess vehicle miles travelled (VMT). OPR recommends that "a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold" based on their review of relevant research on project-level impact mitigation measures.[26] The Madera County Transportation Commission developed a VMT Screening Map which shows the proposed project is in the Traffic Analysis Zone (TAZ) 306, which is designated as having a VMT per capita by TAZ as 15% or more below average, as demonstrated in Figure 4-1. As such, the VMT generated by the proposed Project would be below significance thresholds. Impacts are ***less than significant***.

Mitigation Measures: None are required.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The proposed Project has been designed for ease of access, adequate circulation/movement, and is typical of residential developments in the City of Madera. The proposed residences will be accessed through North D Street and East Adell Street. On-site circulation patterns do not involve high speeds, sharp curves or dangerous intersections. Although there will be an increase in the volume of vehicles accessing the site and surrounding areas, the proposed Project will not present a substantial increase in hazards. Impacts would be ***less than significant***.

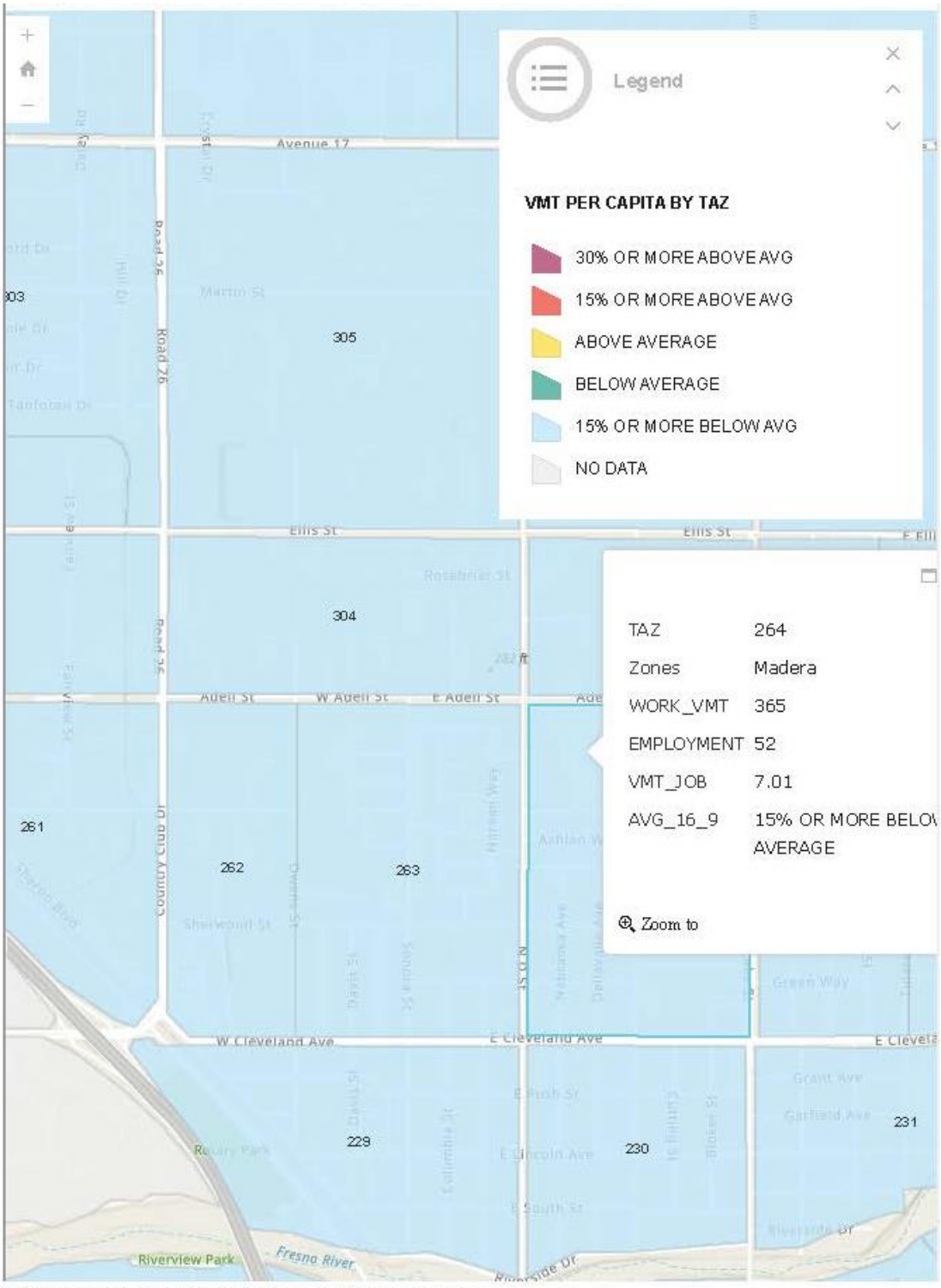
d) Would the project result in inadequate emergency access?

Less Than Significant Impact. State and City Fire Codes establish standards by which emergency access may be determined. The proposed Project would have to provide adequate unobstructed space for fire trucks to turn around. The proposed Project site would have adequate internal circulation capacity including entrance and exit routes to provide adequate unobstructed space for fire trucks and other emergency vehicles to gain access and to turn around. The proposed Project does not involve a change to any emergency response plan and the site will remain accessible to emergency vehicles of all sizes. Any impacts are considered ***less than significant***.

Mitigation Measures: None are required.

[26] Final Program Environmental Impact Report, MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy. August 2022. https://www.maderactc.org/sites/default/files/fileattachments/transportation/page/5641/mctc_2022_rtp_scs_final_peir.pdf. Pg A-147

Figure 4-1 Madera County – VMT Screening Map[27]



https://www.maderactc.org/transportation/page/vehicle-miles-traveled-resources

[27] Madera County Transportation Commission. Vehicle Miles Traveled Resources. Madera County – VMT Screening Maps. https://www.maderactc.org/transportation/page/vehicle-miles-traveled-resources. Accessed March 2024.

4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☐	☐	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

4.18.1 Environmental Setting

The NAHC provides protection to Native American burials from vandalism and inadvertent destruction, provides a procedure for the notification of most likely descendants regarding the discovery of Native American human remains and associated grave goods, brings legal action to prevent severe and irreparable damage to sacred shrines, ceremonial sites, sanctified cemeteries and place of worship on public property, and maintains an inventory of sacred places.[28]

The NAHC performs a Sacred Lands File search for sites located on or near the Project site upon request. The NAHC also provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. The District sent letters to the tribal governments listed

[28] Native American Heritage Commission, About the Native American Heritage Commission http://nahc.ca.gov/about/. Accessed November 2023.

by the NAHC on February 14, 2024 as required by AB 52. The tribes had 30 days from the receipt of the letter to request consultation in writing.

4.18.2 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact. A Tribal Cultural Resource (TCR) is defined under Public Resources Code section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included and that is listed or eligible for inclusion in the California Register of Historic Resources or in a local register of historical resources, or if the MUSD, acting as the Lead Agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. As discussed in the Phase I Cultural Resource Survey (Appendix C) and under Section V, Cultural Resources, criteria (b) and (d), no known archeological resources, ethnographic sites or Native American remains are located on the proposed Project site.

As discussed under criterion (b) implementation of standard protection measures outlined in the City's General Plan EIR would ensure that impacts to unknown archaeological deposits, including TCRs, remains at a less than significant level. As discussed under criterion (d), compliance with California Health and Safety Code Section 7050.5 would reduce the likelihood of disturbing or discovering human remains, including those of Native Americans. In addition, the City provided consultation letters to the Tribes on the NAHC list that was provided to the City. As of March 2024, no response has been received from any of the Tribes. Any impacts to TCR would be considered ***less than significant***.

Mitigation Measures: No additional measures are required.

4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

4.19.1 Environmental Setting

The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The sole source of water supply for the City of Madera is the Madera sub-basin of the San Joaquin Valley Groundwater Basin.

The Madera County Integrated Water Management Plan (Madera IRWM) encourages all of the groundwater users in Madera County to cooperate in reducing the overdraft. The City has developed specific plans to reduce their use of groundwater through implementation of water meters to encourage conservation by users and the percolation of treated wastewater for extraction by the Madera Irrigation District for farm irrigation uses. They have the potential to further reduce groundwater depletion through the implementation of a groundwater recharge program that uses surface water supplies from the San Joaquin River and the Fresno River.

The City of Madera provides wastewater collection, treatment and disposal for the wastewater generated by the Project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers

that convey wastewater from the Project and areas surrounding the Project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's Wastewater Treatment Plant (WWTP) located at 13048 Road 21½, west of the City of Madera. This section discusses the capacity of the existing sanitary sewer collection system, the capacity of the WWTP, the expected demand from the Project, and the evaluation of the impacts and comparison of those impacts to thresholds of significance.

4.19.2 Impact Assessment

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The Project site is located within the service territory of the Wastewater Treatment Facility (WTF). Since the WTF is considered a publicly owned treatment works, operational discharge flows treated at the WTF would be required to comply with applicable water discharge requirements issued by the Central Valley Regional Water Quality Control Board (RWQCB). Compliance with conditions or permit requirements established by the City as well as water discharge requirements outlined by the Central Valley RWQCB would ensure that wastewater discharges coming from the proposed Project site and treated by the WTF system would not exceed applicable Central Valley RWQCB wastewater treatment requirements.

As discussed in Section X, Hydrology and Water Quality, with an increase in the area of impervious surfaces on the Project site, an increase in the amount of storm water runoff is anticipated. The site will be designed so that storm water is collected and deposited in the City's existing storm drain system. The storm water collection system design will be subject to review and approval by the City Public Works Department. Storm water during construction will be managed as part of the Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP is retained on-site during construction. Thus, the proposed Project would have a ***less than significant impact.***

Mitigation Measures: None are required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than Significant Impact. See Section X – Hydrology for a full discussion pertaining to available water supply. The site land use designation and zoning is currently Residential and as such, residential development has been accounted for in the General Plan and other infrastructure planning documents. The City will have sufficient supply to serve the proposed Project and as such, the proposed Project will have a ***less than significant impact.***

Mitigation Measures: None are required.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. As discussed in Section XVIII(a), implementation of the proposed Project would result in the need for additional wastewater treatment service; however, the proposed development was accounted for in the General Plan and has been planned for in the City's adopted infrastructure planning documents. Additionally, the proposed Project applicant would be required to comply with any applicable City and WTF regulations and would be subject to applicable development impact fees and wastewater connection charges. Therefore, with

compliance to applicable standards and payment of required fees and connection charges, the Project would not result in a significant impact related to construction or expansions of existing wastewater treatment facilities.

Mitigation Measures: None are required.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. According to the City's GP, the City of Madera Solid Waste Division provides all residential customers with solid waste and greenwaste services. There are several recycling companies in Madera that accept beverage containers and other recyclables. Disposal services in the City are provided by a contractor, Mid Valley Disposal. The Fairmead Landfill is approximately 9.8 miles northwest of the proposed Project site.

The Project would comply with federal, state and local statutes and regulations related to solid waste. The proposed Project would be required to comply with all standards related to solid waste diversion, reduction, and recycling during Project construction and operation. The proposed Project would result in ***less than significant*** impacts to solid waste and landfill facilities.

Mitigation Measures: None are required.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. See Response d, above. The proposed Project will comply with all federal, state and local statutes and regulations related to solid waste. As such, any impacts would be ***less than significant.***

Mitigation Measures: None are required.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

4.20.1 Environmental Setting

4.20.2 Impact Assessment

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The proposed Project is located in an area developed with residential and agricultural uses, which precludes the risk of wildfire. The area is flat in nature which would limit the risk of downslope flooding and landslides, and limit any wildfire spread.

To receive building permits, the proposed Project would be required to be in compliance with the adopted emergency response plan and latest Building Codes. As such, any wildfire risk to the Project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

4.21 CEQA Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

4.21.1 Environmental Setting

4.21.2 Impact Assessment

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the proposed Project is not expected to have a substantial impact on the environment or on any resources identified in the Initial Study. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc.). The impact is **less than significant**.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the Project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the Project to reduce all potentially significant impacts to **less than significant**.

Chapter 5 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Colett-Martin Residential Project (Project) adjacent to the northern City limit boundary. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 5-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of Table 5-1 identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by City to ensure that individual mitigation measures have been complied with and monitored.

Table 5-1 Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
Mitigation Measure BIO-1: To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is	Prior to construction activities.	Once	Applicant / Project Contractor	Applicant / project contractor shall submit preconstruction survey documentation of compliance to the City prior to issuance of grading or building permits if construction is scheduled during the nesting season. City Planning and Building Departments shall verify preconstruction survey documentation is complete prior to issuance of grading or building permit. City Planning Department to field verify prior to commencement of any project related grading or construction activities as applicable survey	**Mitigation Measure BIO-3:** To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas.

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.				specifications are implemented.	If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.
Cultural Resources					
Mitigation Measure CUL-1: The following shall be implemented: Before initiation of construction or ground-disturbing activities associated with the Project, the City shall require all construction personnel to be	Prior to and during construction.	Ongoing.	Applicant / Project Contractor	Applicant / project contractor shall submit documentation of compliance to the City prior to issuance of grading or building permits. City Planning and Building Departments shall verify	

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources; The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist				preconstruction survey documentation is complete prior to issuance of grading or building permit. City Planning Department to field verify prior to commencement of any project related grading or construction activities as applicable survey specifications are implemented.	

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. City of Madera shall implement said measures.					
Mitigation Measure CUL-2: City of Madera will incorporate into the construction	Prior to and during construction.	Ongoing.	Applicant / Project Contractor	City will incorporate into construction contract.	

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at City of Madera, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the City shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.					

Appendix A

CalEEMod Output Files

Appendix B

Biological Due Diligence Report

Appendix C

Phase I Cultural Resource Survey

Appendix D

Phase I Environmental Site Assessment Report

Appendix E

Geotechnical Report

Appendix F

Acoustical Analysis Report

Colett-Martin Residential Project - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Colett-Martin Residential Project

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	51.00	Dwelling Unit	7.80	91,800.00	185

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	7			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - proposed development of 51 single-family residential units on an approximately 7.8-acre site in the northern part of the City of Madera. The proposed Project includes associated improvements such as access roads, street lighting, and landscaping.

Land Use - Total project acreage is approximately 7.8 acres

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	16.56	7.80
tblLandUse	Population	162.00	185.00
tblWoodstoves	NumberCatalytic	7.80	0.00
tblWoodstoves	NumberNoncatalytic	7.80	0.00

2.0 Emissions Summary

Colett-Martin Residential Project - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2024	0.1491	1.3718	1.4858	2.7200e-003	0.1833	0.0615	0.2448	0.0886	0.0574	0.1460	0.0000	237.2011	237.2011	0.0579	1.1500e-003	238.9924
2025	0.9476	0.7654	1.0359	1.8000e-003	0.0108	0.0325	0.0433	2.9100e-003	0.0305	0.0335	0.0000	156.2229	156.2229	0.0354	9.2000e-004	157.3819
Maximum	**0.9476**	**1.3718**	**1.4858**	**2.7200e-003**	**0.1833**	**0.0615**	**0.2448**	**0.0886**	**0.0574**	**0.1460**	**0.0000**	**237.2011**	**237.2011**	**0.0579**	**1.1500e-003**	**238.9924**

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					
2024	0.1491	1.3718	1.4858	2.7200e-003	0.1833	0.0615	0.2448	0.0886	0.0574	0.1460	0.0000	237.2008	237.2008	0.0579	1.1500e-003	238.9922
2025	0.9476	0.7654	1.0359	1.8000e-003	0.0108	0.0325	0.0433	2.9100e-003	0.0305	0.0335	0.0000	156.2228	156.2228	0.0354	9.2000e-004	157.3817
Maximum	**0.9476**	**1.3718**	**1.4858**	**2.7200e-003**	**0.1833**	**0.0615**	**0.2448**	**0.0886**	**0.0574**	**0.1460**	**0.0000**	**237.2008**	**237.2008**	**0.0579**	**1.1500e-003**	**238.9922**

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	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)
1	**5-1-2024**	**7-31-2024**	0.6889	0.6889
2	**8-1-2024**	**10-31-2024**	0.5004	0.5004
3	**11-1-2024**	**1-31-2025**	0.4886	0.4886
4	**2-1-2025**	**4-30-2025**	0.4496	0.4496
5	**5-1-2025**	**7-31-2025**	1.1070	1.1070
		Highest	1.1070	1.1070

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	0.4583	0.0234	0.3864	1.4000e-004		3.6400e-003	3.6400e-003		3.6400e-003	3.6400e-003	0.0000	22.7122	22.7122	1.0200e-003	4.1000e-004	22.8583
Energy	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567
Mobile	0.2282	0.4076	2.1507	5.2200e-003	0.5172	4.6700e-003	0.5219	0.1384	4.3900e-003	0.1428	0.0000	494.2785	494.2785	0.0251	0.0272	503.0195
Waste						0.0000	0.0000		0.0000	0.0000	14.1302	0.0000	14.1302	0.8351	0.0000	35.0070
Water						0.0000	0.0000		0.0000	0.0000	1.0542	0.0000	1.0542	0.1083	2.5600e-003	4.5229
Total	**0.6930**	**0.4869**	**2.5609**	**5.7200e-003**	**0.5172**	**0.0128**	**0.5300**	**0.1384**	**0.0125**	**0.1510**	**15.1844**	**581.6630**	**596.8474**	**0.9707**	**0.0314**	**630.4643**

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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	0.4583	0.0234	0.3864	1.4000e-004		3.6400e-003	3.6400e-003		3.6400e-003	3.6400e-003	0.0000	22.7122	22.7122	1.0200e-003	4.1000e-004	22.8583
Energy	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567
Mobile	0.2282	0.4076	2.1507	5.2200e-003	0.5172	4.6700e-003	0.5219	0.1384	4.3900e-003	0.1428	0.0000	494.2785	494.2785	0.0251	0.0272	503.0195
Waste						0.0000	0.0000		0.0000	0.0000	14.1302	0.0000	14.1302	0.8351	0.0000	35.0070
Water						0.0000	0.0000		0.0000	0.0000	1.0542	0.0000	1.0542	0.1083	2.5600e-003	4.5229
Total	**0.6930**	**0.4869**	**2.5609**	**5.7200e-003**	**0.5172**	**0.0128**	**0.5300**	**0.1384**	**0.0125**	**0.1510**	**15.1844**	**581.6630**	**596.8474**	**0.9707**	**0.0314**	**630.4643**

	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	Demolition	Demolition	5/1/2024	5/28/2024	5	20	
2	Site Preparation	Site Preparation	5/29/2024	6/11/2024	5	10	
3	Grading	Grading	6/12/2024	7/9/2024	5	20	

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4	Building Construction	Building Construction	7/10/2024	5/27/2025	5	230	
5	Paving	Paving	5/28/2025	6/24/2025	5	20	
6	Architectural Coating	Architectural Coating	6/25/2025	7/22/2025	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 185,895; Residential Outdoor: 61,965; 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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

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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
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	18.00	5.00	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	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

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	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9961	33.9961	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9961**	**33.9961**	**9.5100e-003**	**0.0000**	**34.2338**

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3.2 Demolition - 2024

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	4.3000e-004	2.8000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9468	0.9468	3.0000e-005	3.0000e-005	0.9552
Total	**4.3000e-004**	**2.8000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9468**	**0.9468**	**3.0000e-005**	**3.0000e-005**	**0.9552**

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	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9960	33.9960	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9960**	**33.9960**	**9.5100e-003**	**0.0000**	**34.2338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2024

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	4.3000e-004	2.8000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9468	0.9468	3.0000e-005	3.0000e-005	0.9552
Total	**4.3000e-004**	**2.8000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9468**	**0.9468**	**3.0000e-005**	**3.0000e-005**	**0.9552**

3.3 Site Preparation - 2024

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6600e-003	5.6600e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	**0.0133**	**0.1359**	**0.0917**	**1.9000e-004**	**0.0983**	**6.1500e-003**	**0.1044**	**0.0505**	**5.6600e-003**	**0.0562**	**0.0000**	**16.7285**	**16.7285**	**5.4100e-003**	**0.0000**	**16.8638**

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3.3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0700e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5681	0.5681	2.0000e-005	2.0000e-005	0.5731
Total	**2.6000e-004**	**1.7000e-004**	**2.0700e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5681**	**0.5681**	**2.0000e-005**	**2.0000e-005**	**0.5731**

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6500e-003	5.6500e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	**0.0133**	**0.1359**	**0.0917**	**1.9000e-004**	**0.0983**	**6.1500e-003**	**0.1044**	**0.0505**	**5.6500e-003**	**0.0562**	**0.0000**	**16.7285**	**16.7285**	**5.4100e-003**	**0.0000**	**16.8638**

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3.3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0700e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5681	0.5681	2.0000e-005	2.0000e-005	0.5731
Total	**2.6000e-004**	**1.7000e-004**	**2.0700e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5681**	**0.5681**	**2.0000e-005**	**2.0000e-005**	**0.5731**

3.4 Grading - 2024

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1703	0.1476	3.0000e-004		7.2400e-003	7.2400e-003		6.6600e-003	6.6600e-003	0.0000	26.0639	26.0639	8.4300e-003	0.0000	26.2747
Total	**0.0166**	**0.1703**	**0.1476**	**3.0000e-004**	**0.0708**	**7.2400e-003**	**0.0781**	**0.0343**	**6.6600e-003**	**0.0409**	**0.0000**	**26.0639**	**26.0639**	**8.4300e-003**	**0.0000**	**26.2747**

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3.4 Grading - 2024

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	4.3000e-004	2.8000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9468	0.9468	3.0000e-005	3.0000e-005	0.9552
Total	**4.3000e-004**	**2.8000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9468**	**0.9468**	**3.0000e-005**	**3.0000e-005**	**0.9552**

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1703	0.1476	3.0000e-004		7.2400e-003	7.2400e-003		6.6600e-003	6.6600e-003	0.0000	26.0639	26.0639	8.4300e-003	0.0000	26.2746
Total	**0.0166**	**0.1703**	**0.1476**	**3.0000e-004**	**0.0708**	**7.2400e-003**	**0.0781**	**0.0343**	**6.6600e-003**	**0.0409**	**0.0000**	**26.0639**	**26.0639**	**8.4300e-003**	**0.0000**	**26.2746**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

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	4.3000e-004	2.8000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9468	0.9468	3.0000e-005	3.0000e-005	0.9552
Total	**4.3000e-004**	**2.8000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9468**	**0.9468**	**3.0000e-005**	**3.0000e-005**	**0.9552**

3.5 Building Construction - 2024

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	0.0920	0.8402	1.0104	1.6800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	144.9057	144.9057	0.0343	0.0000	145.7623
Total	**0.0920**	**0.8402**	**1.0104**	**1.6800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**144.9057**	**144.9057**	**0.0343**	**0.0000**	**145.7623**

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3.5 Building Construction - 2024

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	3.4000e-004	0.0138	4.1300e-003	6.0000e-005	2.0700e-003	9.0000e-005	2.1600e-003	6.0000e-004	9.0000e-005	6.8000e-004	0.0000	5.9446	5.9446	2.0000e-005	8.9000e-004	6.2102
Worker	3.2600e-003	2.0900e-003	0.0259	8.0000e-005	8.9900e-003	5.0000e-005	9.0400e-003	2.3900e-003	4.0000e-005	2.4300e-003	0.0000	7.1007	7.1007	2.0000e-004	2.0000e-004	7.1641
Total	**3.6000e-003**	**0.0159**	**0.0300**	**1.4000e-004**	**0.0111**	**1.4000e-004**	**0.0112**	**2.9900e-003**	**1.3000e-004**	**3.1100e-003**	**0.0000**	**13.0453**	**13.0453**	**2.2000e-004**	**1.0900e-003**	**13.3743**

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	0.0920	0.8402	1.0104	1.6800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	144.9055	144.9055	0.0343	0.0000	145.7622
Total	**0.0920**	**0.8402**	**1.0104**	**1.6800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**144.9055**	**144.9055**	**0.0343**	**0.0000**	**145.7622**

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3.5 Building Construction - 2024

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	3.4000e-004	0.0138	4.1300e-003	6.0000e-005	2.0700e-003	9.0000e-005	2.1600e-003	6.0000e-004	9.0000e-005	6.8000e-004	0.0000	5.9446	5.9446	2.0000e-005	8.9000e-004	6.2102
Worker	3.2600e-003	2.0900e-003	0.0259	8.0000e-005	8.9900e-003	5.0000e-005	9.0400e-003	2.3900e-003	4.0000e-005	2.4300e-003	0.0000	7.1007	7.1007	2.0000e-004	2.0000e-004	7.1641
Total	**3.6000e-003**	**0.0159**	**0.0300**	**1.4000e-004**	**0.0111**	**1.4000e-004**	**0.0112**	**2.9900e-003**	**1.3000e-004**	**3.1100e-003**	**0.0000**	**13.0453**	**13.0453**	**2.2000e-004**	**1.0900e-003**	**13.3743**

3.5 Building Construction - 2025

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	0.0718	0.6547	0.8444	1.4200e-003		0.0277	0.0277		0.0261	0.0261	0.0000	121.7577	121.7577	0.0286	0.0000	122.4733
Total	**0.0718**	**0.6547**	**0.8444**	**1.4200e-003**		**0.0277**	**0.0277**		**0.0261**	**0.0261**	**0.0000**	**121.7577**	**121.7577**	**0.0286**	**0.0000**	**122.4733**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

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	2.8000e-004	0.0116	3.3900e-003	5.0000e-005	1.7400e-003	8.0000e-005	1.8200e-003	5.0000e-004	7.0000e-005	5.8000e-004	0.0000	4.9026	4.9026	2.0000e-005	7.3000e-004	5.1214
Worker	2.5400e-003	1.5600e-003	0.0202	6.0000e-005	7.5600e-003	4.0000e-005	7.5900e-003	2.0100e-003	3.0000e-005	2.0400e-003	0.0000	5.8200	5.8200	1.5000e-004	1.5000e-004	5.8694
Total	**2.8200e-003**	**0.0131**	**0.0236**	**1.1000e-004**	**9.3000e-003**	**1.2000e-004**	**9.4100e-003**	**2.5100e-003**	**1.0000e-004**	**2.6200e-003**	**0.0000**	**10.7226**	**10.7226**	**1.7000e-004**	**8.8000e-004**	**10.9907**

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	0.0718	0.6547	0.8444	1.4200e-003		0.0277	0.0277		0.0261	0.0261	0.0000	121.7576	121.7576	0.0286	0.0000	122.4731
Total	**0.0718**	**0.6547**	**0.8444**	**1.4200e-003**		**0.0277**	**0.0277**		**0.0261**	**0.0261**	**0.0000**	**121.7576**	**121.7576**	**0.0286**	**0.0000**	**122.4731**

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3.5 Building Construction - 2025

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	2.8000e-004	0.0116	3.3900e-003	5.0000e-005	1.7400e-003	8.0000e-005	1.8200e-003	5.0000e-004	7.0000e-005	5.8000e-004	0.0000	4.9026	4.9026	2.0000e-005	7.3000e-004	5.1214
Worker	2.5400e-003	1.5600e-003	0.0202	6.0000e-005	7.5600e-003	4.0000e-005	7.5900e-003	2.0100e-003	3.0000e-005	2.0400e-003	0.0000	5.8200	5.8200	1.5000e-004	1.5000e-004	5.8694
Total	**2.8200e-003**	**0.0131**	**0.0236**	**1.1000e-004**	**9.3000e-003**	**1.2000e-004**	**9.4100e-003**	**2.5100e-003**	**1.0000e-004**	**2.6200e-003**	**0.0000**	**10.7226**	**10.7226**	**1.7000e-004**	**8.8000e-004**	**10.9907**

3.6 Paving - 2025

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	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0193**	**20.0193**	**6.4700e-003**	**0.0000**	**20.1811**

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3.6 Paving - 2025

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	4.0000e-004	2.5000e-004	3.2000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9238	0.9238	2.0000e-005	2.0000e-005	0.9316
Total	**4.0000e-004**	**2.5000e-004**	**3.2000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9238**	**0.9238**	**2.0000e-005**	**2.0000e-005**	**0.9316**

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	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0192**	**20.0192**	**6.4700e-003**	**0.0000**	**20.1811**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2025

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	4.0000e-004	2.5000e-004	3.2000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9238	0.9238	2.0000e-005	2.0000e-005	0.9316
Total	**4.0000e-004**	**2.5000e-004**	**3.2000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9238**	**0.9238**	**2.0000e-005**	**2.0000e-005**	**0.9316**

3.7 Architectural Coating - 2025

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	0.8616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.8633**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	7.0000e-005	8.5000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2464	0.2464	1.0000e-005	1.0000e-005	0.2484
Total	**1.1000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2464**	**0.2464**	**1.0000e-005**	**1.0000e-005**	**0.2484**

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	0.8616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.8633**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

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3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	7.0000e-005	8.5000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2464	0.2464	1.0000e-005	1.0000e-005	0.2484
Total	**1.1000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2464**	**0.2464**	**1.0000e-005**	**1.0000e-005**	**0.2484**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.2282	0.4076	2.1507	5.2200e-003	0.5172	4.6700e-003	0.5219	0.1384	4.3900e-003	0.1428	0.0000	494.2785	494.2785	0.0251	0.0272	503.0195
Unmitigated	0.2282	0.4076	2.1507	5.2200e-003	0.5172	4.6700e-003	0.5219	0.1384	4.3900e-003	0.1428	0.0000	494.2785	494.2785	0.0251	0.0272	503.0195

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	481.44	486.54	436.05	1,378,446	1,378,446
Total	481.44	486.54	436.05	1,378,446	1,378,446

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
Single Family Housing	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.517111	0.052324	0.170980	0.155671	0.027786	0.007423	0.013424	0.026160	0.000649	0.000313	0.023324	0.001439	0.003395

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567
NaturalGas Unmitigated	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567

Colett-Martin Residential Project - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Single Family Housing	1.21191e+006	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567
Total		**6.5300e-003**	**0.0558**	**0.0238**	**3.6000e-004**		**4.5100e-003**	**4.5100e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**64.6724**	**64.6724**	**1.2400e-003**	**1.1900e-003**	**65.0567**

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					
Single Family Housing	1.21191e+006	6.5300e-003	0.0558	0.0238	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	64.6724	64.6724	1.2400e-003	1.1900e-003	65.0567
Total		**6.5300e-003**	**0.0558**	**0.0238**	**3.6000e-004**		**4.5100e-003**	**4.5100e-003**		**4.5100e-003**	**4.5100e-003**	**0.0000**	**64.6724**	**64.6724**	**1.2400e-003**	**1.1900e-003**	**65.0567**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	404886	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	404886	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	0.4583	0.0234	0.3864	1.4000e-004		3.6400e-003	3.6400e-003		3.6400e-003	3.6400e-003	0.0000	22.7122	22.7122	1.0200e-003	4.1000e-004	22.8583
Unmitigated	0.4583	0.0234	0.3864	1.4000e-004		3.6400e-003	3.6400e-003		3.6400e-003	3.6400e-003	0.0000	22.7122	22.7122	1.0200e-003	4.1000e-004	22.8583

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	0.0862					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3585					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2300e-003	0.0191	8.1200e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0936	22.0936	4.2000e-004	4.1000e-004	22.2249
Landscaping	0.0114	4.3600e-003	0.3783	2.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	0.6186	0.6186	5.9000e-004	0.0000	0.6334
Total	**0.4583**	**0.0234**	**0.3864**	**1.4000e-004**		**3.6400e-003**	**3.6400e-003**		**3.6400e-003**	**3.6400e-003**	**0.0000**	**22.7122**	**22.7122**	**1.0100e-003**	**4.1000e-004**	**22.8583**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0862					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3585					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2300e-003	0.0191	8.1200e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0936	22.0936	4.2000e-004	4.1000e-004	22.2249
Landscaping	0.0114	4.3600e-003	0.3783	2.0000e-005		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	0.6186	0.6186	5.9000e-004	0.0000	0.6334
Total	**0.4583**	**0.0234**	**0.3864**	**1.4000e-004**		**3.6400e-003**	**3.6400e-003**		**3.6400e-003**	**3.6400e-003**	**0.0000**	**22.7122**	**22.7122**	**1.0100e-003**	**4.1000e-004**	**22.8583**

7.0 Water Detail

7.1 Mitigation Measures Water

Colett-Martin Residential Project - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.0542	0.1083	2.5600e-003	4.5229
Unmitigated	1.0542	0.1083	2.5600e-003	4.5229

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.32286 / 2.09484	1.0542	0.1083	2.5600e-003	4.5229
Total		**1.0542**	**0.1083**	**2.5600e-003**	**4.5229**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.32286 / 2.09484	1.0542	0.1083	2.5600e-003	4.5229
Total		**1.0542**	**0.1083**	**2.5600e-003**	**4.5229**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.1302	0.8351	0.0000	35.0070
Unmitigated	14.1302	0.8351	0.0000	35.0070

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	69.61	14.1302	0.8351	0.0000	35.0070
Total		**14.1302**	**0.8351**	**0.0000**	**35.0070**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	69.61	14.1302	0.8351	0.0000	35.0070
Total		**14.1302**	**0.8351**	**0.0000**	**35.0070**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Colett-Martin Residential Project - San Joaquin Valley Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

H. T. HARVEY & ASSOCIATES
Ecological Consultants

November 30, 2023

Zach Gomes, Vice President of Operations
KB Home Central California
744 P Street, Third Floor, Suite 321
Fresno, CA 93721

Subject: Colett Martin Project, Fresno, California—Biological Due Diligence

Dear Mr. Gomes:

H. T. Harvey & Associates assessed a 7.77-acre residential development identified as the Colett Martin Project occurring within APN 004-170-009, 004-170-010, and 004-170-020 located on the southeast corner of Adell Street and North D Street in Madera, Madera County, California. This survey was requested by KB Home Central California in due diligence to assess whether any species federally or state listed as threatened, endangered, or candidate or any state species of special concern (collectively referred to as special-status species) occur or are likely to occur on the project site.

A qualified H. T. Harvey & Associates ecologist performed a biological survey of the project site on November 15, 2023 to determine the potential presence of special-status plant and wildlife species. The ecologist surveyed the entire site by walking the perimeter of the site and walking transects across representative portions of the site. This provided full visual coverage of the project site for assessing habitat composition and species presence. In addition, the ecologist visually surveyed all areas within a quarter-mile of project site boundaries for signs of current or prior nesting (e.g., existing nests) by raptor species.

The site consists of loose, recently disked soil, except for an approximately 0.5-acre patch of intact annual grassland in the southwest corner of the site that contains several trees. In addition, there were six patches of intact grass and weedy annuals in the middle portion of the site; the largest such patches was approximately 0.5 acres. Isolated trees occur on the northern and western borders of the site. Some garbage and debris occurs on site; including debris piles on the western border of the site along North D Street. Overall, the site conditions are currently unsuitable for special-status plant species. Approximately 80% of the loose, recently disked soil was bare ground, and the remainder consisted of upturned, dry grass from the previous growing season. The intact grassland and grassy patches were almost completely covered in vegetation comprised mostly of dried grasses up to 4 feet in height, but some low-growing forbs and taller weedy annuals were also present.

Approximately 85 to 88 percent of the site can be characterized as heavily disturbed annual grassland that has not yet revegetated following disking. The remainder of the site consists of the heavily vegetated grassland and grassy patches that have not been disked recently. As a result of multiple rounds of disking over the last two decades, the project site is highly suitable for nonnative invasive plants. We understand that all vegetation in construction areas will be cleared and that the use of site-specific best management practices will minimize the dispersal of nonnative invasive plants.

A query of California Natural Diversity Database (CNDDB 2023[1]) records occurring within 5 miles (mi) of the project site revealed 40 special-status species[2] occurrences involving five animal species and five plant species. However, nine of these records are based on observations made over 50 years ago. The more recent records (i.e., those that are dated within the last 50 years) from within 5 mi of the project site consist of 31 special-status species occurrences (CNDDB 2023); the species represented, with scientific name and number of occurrences in parentheses, are burrowing owl (*Athene cunicularia*; 1 occurrence), Swainson's hawk (*Buteo swainsoni;* 3 occurrences), California tiger salamander (*Ambystoma californiense*, central California Distinct Population Segment; 7 occurrences), western spadefoot toad (*Spea hammondii*; 14 occurrences), vernal pool fair shrimp (*Branchinecta lynchi*; 5 occurrences), and hairy Orcutt grass (*Orcuttia pilosa*; 1 occurrence). Of the records from within the last 50 years, the occurrences closest to the project site are for western spadefoot toad and vernal pool fairy shrimp observed 1.1 mi northeast of the project site in 2017 and the next closest occurrence is for California tiger salamanders observed 1.4 mi northeast of the project site in 2018. These locations are separated from the project site by residential and commercial development, and numerous roads that impede movement by amphibians. Four additional special-status species have CNDDB occurrences within 5 mi of the project site in what were intact vernal pool grasslands at the time based solely on observations made over 50 years ago: Greene's tuctoria (*Tuctoria greenei*), Munz's tidy-tips (*Layia munzii*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), and shining navarretia (*Navarretia nigelliformis* ssp. *radians*).

The remnant, non-native annual grassland on the project site provides habitat for common, rural, and urban-adapted wildlife species, such as ground-foraging and nesting birds, California ground squirrels (*Otospermophilus beecheyi*), pocket gophers (*Thomomys bottae*), and desert cottontail (*Sylvilagus audobonii*). The disked annual grassland that comprises the bulk of the project site is currently low in quality for wildlife, but if left undisturbed would become similar in quality to the remnant, non-native grassland within 1-2 growing seasons. Wildlife species observed directly on the project site consisted mostly of common bird species: American crows (*Corvus brachyrhynchus*), European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), northern mockingbirds (*Mimus polyglotos*), mourning doves (*Zenaida macroura*), and rock pigeons (*Columba livia*). No additional vertebrate wildlife species or signs of current or prior nesting by raptor species were found within one quarter mile of the project site.

Small mammal burrows were present at very low density across the project site; only a single burrow 4 inches in depth was observed onsite, within the recently disked area. Burrows will likely increase in prevalence within the recently disked area as small mammals recolonize it. The vegetation in the intact annual grassland is currently too tall and thick to serve as high-quality habitat for California ground squirrels, and no burrows of any mammal species were found there. A domestic cat (*Felis catus*), a non-native mammalian predator was observed. All animal species observed are listed in Appendix A.

[1] (CNDDB) California Natural Diversity Database. 2023. Results of electronic records search. Rarefind 5. California Department of Fish and Wildlife. <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed November 2023.
[2] Listed as 1) threatened or endangered under the California Endangered Species Act or the federal Endangered Species Act, 2) a Species of Special Concern by the California Department of Fish and Wildlife, or 3) rank 1B (Rare or Endangered) by the California Native Plant Society.

No direct evidence of special-status animal or plant species was observed and the site currently provides little or no value to sensitive plants. Conversion of habitat in the project vicinity from row crop agriculture and pasture to dense residential and commercial development and orchards has altered or eliminated habitat for these species in the project vicinity. There are no vernal pools on the property to provide habitat for vernal pool associated species including vernal pool fairy shrimp or hairy Orcutt grass, or other naturally occurring aquatic habitats that could provide reproductive habitat for California tiger salamander or western spadefoot toad. Records within the last six years for both amphibian species occur over a mile away adjacent to the Santa Fe Railroad tracks and are separated from the project site by residential and commercial development and numerous roadways. Consequently, both species are considered absent from the site due to isolation from occupied habitat and the quality of habitat on the project site. The site has been disked repeatedly, the current density of small mammal burrows is very low, and there are no suitable breeding sites in the project vicinity that are within the maximum dispersal distance of the species and connected to the project site via a plausible dispersal route.

The property does not currently provide suitable habitat for burrowing owls because no burrows suitable for occupancy by burrowing owls occur there. The presence of adjacent suburban developments and the presence of trees further reduces the sites suitability for burrowing owls. The trees on the property and within one quarter mile were inspected for the presence of nests that could be used by Swainson's hawks and other raptors and none were found.

If construction activities occur during the avian nesting season (generally, February 1 through August 31), preconstruction surveys for nesting birds by a qualified ornithologist should be conducted to ensure that no active nests are disturbed during construction. The survey should be conducted no more than 7 days before construction activities begin. During this survey, all potential nesting areas should be inspected in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist should determine the extent of a construction-free buffer zone to be established around the nest (typically, 300 feet for raptors and 25–100 feet for other species) to ensure that no active nests of species protected by the California Fish and Game Code would be disturbed during project construction.

Please feel free to contact me at 559.960.0849 or jseay@harveyecology.com regarding these survey results.

Sincerely,

Jeff Seay
Senior Wildlife Ecologist

Appendix A. Animal Species Observed on or Within 0.25 Miles of the Colett Martin Project Site

Common Name	Scientific Name
Birds	
American crow	*Corvus brachyrhynchos*
European starling	*Sturnus vulgaris*
House sparrow	*Passer domesticus*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Rock pigeon	*Columba livia*
Mammals	
Domestic cat	*Felis catus*

Note: None of the observed species are special-status species.

A
PHASE I CULTURAL RESOURCE SURVEY
FOR PROPERTY LOCATED AT THE SOUTHEAST CORNER
OF N. D AND ADELL STREETS,
COLETT-MARTIN SITE,
CITY OF MADERA, CALIFORNIA

Submitted to:

Crawford and Bowen Planning, Inc.
113 N. Church Street, Suite #302
Visalia, California 93291

Keywords:
Madera 7.5' Quadrangle, City of Madera,
California Environmental Quality Act

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

Author:
Scott M. Hudlow

March 2024

Management Summary

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted on an approximate 7.77-acre parcel, located at the southeast corner of N. D and Adell Streets in the City of Madera, California. The Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

One cultural resources was identified, C&B-2. C&B-2 is the foundation from a dwelling. An abandoned well is also present as well as several decorative trees. No additional artifacts were identified, partially due to the thick, dense wet turf grass that covers the site. This residence was demolished before 1982, and will not provide additional elucidation about the settlement of the Madera area. As such, it is not eligible for nomination to the California Register of Historic Resources. C&B-2 is 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). Second, C&B-2 is not associated with the lives of persons important to local, California or national history (Criterion 2). Third, C&B-2 does 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). Fourth, C&B-2 will not yield, or has 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 Crawford and Bowen Planning, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey in accordance with the California Environmental Quality Act for a proposed single-family residential development, the Colett-Martin Site. The 7.77-acre property lies at the southeast corner of N. D and Adell Streets, in the City of Madera, California. This project is being undertaken in accordance with the California Environmental Quality Act (CEQA) with the City of Madera responsible as Lead Agency to implement CEQA. The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

2.0 Project Location

The project area is in the City of Madera, California. It is a portion of the SW ¼ of the SW ¼ of the SE ¼ of Section 12, T.11S., R.17E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Madera 7.5-minute quadrangle map (Figure 1). The proposed single-family residential development is located at the southeast corner of N. D and Adell Streets in the City of Madera, California.

3.0 Record Search

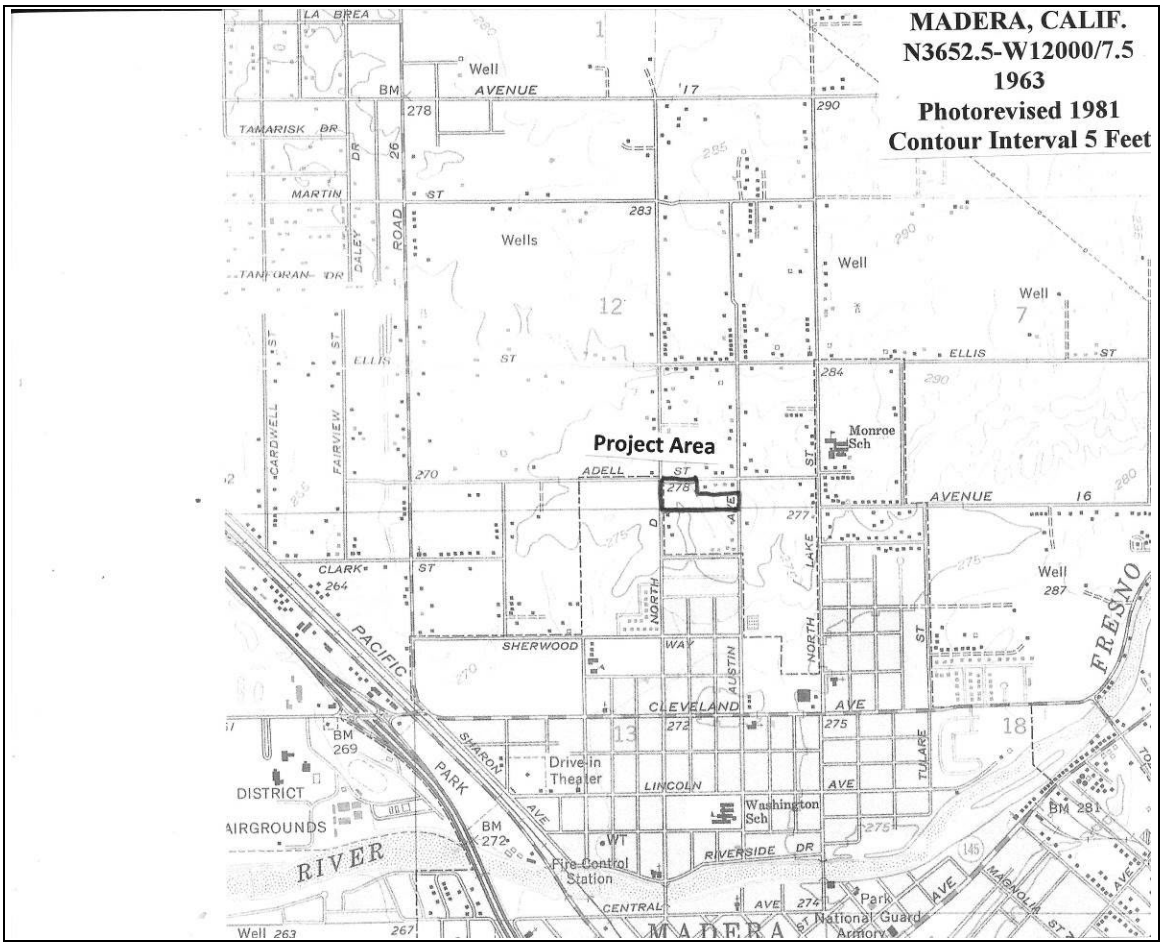
A record search of the project area and the environs within one half-mile was conducted at the Southern San Joaquin Valley Information Center. Scott M. Hudlow conducted the record search, RS# 24-068, on February 12, 2024. The record search revealed that five cultural resource surveys have been conducted within one half-mile of the project area. No surveys have previously addressed the parcel in question. Four cultural resources, which are all historic buildings, are located within one half-mile of the current project area (Appendix II). No cultural resources have previously identified within the current project area.

4.0 Environmental Background

The project area is located at elevation of 278 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 parcel is located north of the Fresno River. The former agricultural lot is covered with weeds. No native vegetation survives. Weeds abound across the lot, including bunch grasses, turf grasses, mustard, and rabbitbrush; modern trash is strewn across the parcel (Figures 2 and 3).

5.0 Prehistoric Archaeological Context

A limited amount of archaeological research has been conducted in the southern San Joaquin Valley. Thus, consensus on a generally agreed upon



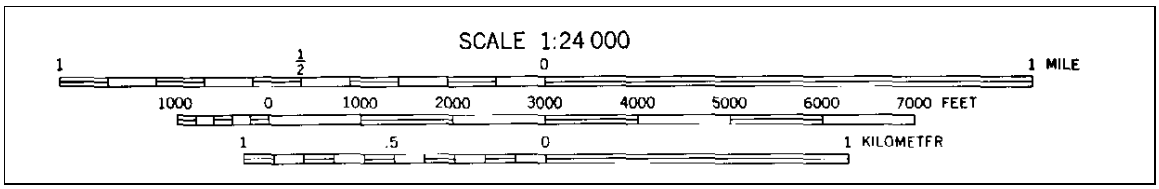


Figure 1
Project Area Location Map

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." 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 represents 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

Figure 2
Project Area, View to the Southeast

Figure 3
Project Area, View to the Northwest

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. Bedrock 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 Madera 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 for the last three thousand years, 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 San Joaquin Valley in the Madera area was home to the Yokuts tribelet, Heuche. The tribelet had approximately 550 people, 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 Heuche occupied the area on the north side of the Fresno River, east of the San Joaquin River (Latta 1999).

The Southern Valley Yokuts had a mixed economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent resource and 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 and dogs were consumed (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. Land mammals, such as rabbits,

ground squirrels, antelope and tule elk, were not taken 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. Bent-pole ribs that met a ridgepole held by two crotched poles framed these small houses. 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. Cold temperatures brought out rabbitskin or mud hen blankets. 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 (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. Yokuts fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was an animal or bird that no member would kill or eat and that was dreamed of and prayed to. 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

Merced County was formed in 1855 from parts of Mariposa County. Fresno County was created from Merced County in 1856, and Madera County ceded from Fresno County in 1893. Madera County was settled in the 1850s, 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 in 1769. Father Junipero Serra, a Franciscan friar founded Mission San Diego de Alcala, which began California's active European settlement. However, Spanish mission efforts were focused on California's coastal regions. Spanish exploration of the San Joaquin Valley region began 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; California's hot, dry interior valleys held little interest.

Madera County derives its name from the Spanish word for lumber; the eastern portion of Madera County extends across the crest of the Sierra Nevada mountains. 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. The Americans were, soon, 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 in 1848 and the subsequent discovery of gold in 1848 drastically altered 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 government in the mid 1830s. The Republic of Texas was an independent country for nine years, until the United States annexed Texas 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; Madera County was Yokuts territory. The Gold Rush tipped the balance of native communities throughout California,; California's native population was decimated.

In 1893, Madera County was created from the northern half of Fresno County. The county seat was at the city of Madera. The Central Pacific (CP) Railroad came through the northern half of Fresno County in the 1860s, after the Civil War. However, the CP, now the Southern Pacific (SP), did not build a station. The Madera area did not fit into SP's plans to develop along the railroad's right-of-way. Instead, the California Lumber Company saw the area as a terminus for its lumber, and a junction with the railroad. The Company laid out the town of Madera in 1876 along the railroad right-of-way. Madera city began growing immediately behind the twin economic forces of the railroad and the lumber company. The lumber company due to the enormous expense of hauling lumber from the Sierra Nevada Mountains, instead built a fifty-four-mile long lug flume to bring lumber into Madera from the Sierra Nevada Mountains. The California Lumber Company and its various corporate incarnations flourished until the Great Depression.

Madera city became the Madera County seat in 1896 and incorporated in 1907. Although the lumber industry dominated Madera's local economy, agriculture in the valley portion of Madera County began to grow, giving the area economic stability. The agricultural economy was dominated by permanent crops, such as almonds and fruits, such as table grapes, which continue into the twenty-first century.

8.0 Field Procedures and Methods

On February 27, 2024, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian archaeological survey of the entire proposed project area. Hudlow surveyed in east/west transects across the entire lot in 15-meter (33 feet) intervals.

9.0 Report of Archaeological Findings

One cultural resource was identified, C&B-2. C&B-2 is the foundation from a mid-twentieth-century farmhouse. The house can be seen on an aerial from 1940, but the house disappears from the landscape in 1981. A thick concrete aggregate foundation is present as well as the cap from a well (Figures 4 and 5). Secondary walls and decorative planting are also present. A majority of the decorative plantings are located approximately fifty feet to the east.

Figure 4
Site C&B-2, Aggregate Concrete Foundation, View to the South

Figure 5
Site C&B-2, Well, View to the East

10.0 Management Recommendations

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted on an approximate 7.77-acre parcel, located at the southeast corner of N. D and Adell Streets in the City of Madera, California. The Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

One cultural resources was identified, C&B-2. C&B-2 is the foundation from a dwelling. An abandoned well is also present as well as several decorative trees. No additional artifacts were identified, partially due to the thick, dense wet turf grass that covers the site. This residence was demolished

before 1982, and will not provide additional elucidation about the settlement of the Madera area. As such, it is not eligible for nomination to the California Register of Historic Resources. C&B-2 is 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). Second, C&B-2 is not associated with the lives of persons important to local, California or national history (Criterion 2). Third, C&B-2 does 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). Fourth, C&B-2 will not yield, or has 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

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Appendix I

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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 is available upon request.

Appendix II

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-20-002802		Resource Name - 916 East Adell Street; OHP Property Number - 174849; OTIS Resource Number - 522940	Building	Historic	HP02	2008 (Karin Goetter, LSA Associates, Inc.)	MA-01129
P-20-002803		Resource Name - 1313 North Lake Street; OHP Property Number - 174850; OTIS Resource Number - 522941	Building	Historic	HP02	2008 (Karin Goetter, LSA Associates, Inc.)	MA-01129
P-20-002804		Resource Name - James Monroe Elementary School; Resource Name - 1819 North Lake Street; OHP Property Number - 174851; OTIS Resource Number - 522752	Building	Historic	HP15	2008 (Karin Goetter, LSA Associates, Inc.)	MA-01129
P-20-002805		Resource Name - 15876 & 16100 North Lake Street; OHP Property Number - 174853; OTIS Resource Number - 522754	Building	Historic	HP02	2008 (Karin Goetter, LSA Associates, Inc.)	MA-01129

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
MA-00035	IC Record Search Nbr - 96-517; NADB-R - 1141300	1996	Jensen, Sean M.	Archaeological Inventory Survey for the Tracy to Fresno Longhaul Fiberoptics Data Transmission Line, Portions of Fresno, Madera, Merced, Stanislaus, and San Joaquin Counties, California	Jensen and Associates	
MA-00215		1981	Crist, Michael K.	Cultural Resource Reconnaissance for the Ogo Apartment Site Madera County	Buada Associates	
MA-01129	Caltrans - EA 06-965100; IC Record Search Nbr - 08-048	2008	Goetter, Karin	Historic Property Survey Report for the Lake Street Reconstruction Project, Madera, Madera County, California (Expenditure Authorization 06-965100)	LSA Associates, Inc.	20-002802, 20-002803, 20-002804, 20-002805
MA-01129A		2008	Goetter, Karin	Archarological survey Report for the Lake Street Reconstruction Project	LSA Asspcoates. Inc.	
MA-01129B		2008	Goetter, Karin	Historical Resources Evaluation Report for the Lake Street Reconstruction Project	LSA Associates, Inc.	

ACOUSTICAL ANALYSIS

COLETT-MARTIN SUBDIVISION
MADERA, CALIFORNIA

WJVA Project No. 23-46

PREPARED FOR

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PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

NOVEMBER 30, 2023

INTRODUCTION

The project (Colett-Martin Subdivision) is a proposed 52-lot single-family residential development to be located in Madera, California. The project site is located south of Adell Street, between N. D Street and Austin Avenue. The project developer, KB Homes, has requested an acoustical analysis to quantify project site noise exposure and determine noise mitigation requirements. This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site lot layout plan provided by the applicant, traffic data provided by the Madera County Transportation Commission (Madera CTC), and the findings of on-site noise level measurements. Revisions to the site plan may affect the findings and recommendations of this report. The site plan is provided as Figure 1.

Appendix A provides a description of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects. Appendix B provides typical A-weighted sound levels for common noise sources.

In terms of human perception, a 5 dB increase or decrease is considered to be a noticeable change in noise levels. Additionally, a 10 dB increase or decrease is perceived by the human ear as half as loud or twice as loud. In terms of perception, generally speaking the human ear cannot perceive an increase (or decrease) in noise levels less than 3 dB.

NOISE EXPOSURE CRITERIA

City of Madera

General Plan

The Noise Element of the City of Madera General Plan (Noise Element) establishes noise level compatibility standards in terms of the Day-Night Average Level (L_{dn}) or Community Noise Equivalent Level (CNEL). Both the L_{dn} and CNEL represent the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The CNEL includes an additional penalty of 5 dB (technically 4.77 dB) that is added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m. Both the L_{dn} and CNEL represent cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. The L_{dn} and CNEL are considered to be equivalent descriptors of the community noise environment for the purposes of this study. Table I provides the City of Madera noise level standards for transportation noise sources.

For transportation noise sources, the Noise Element establishes an exterior noise exposure of less than 60 dBA L_{dn} as "completely compatible", an exterior noise exposure of 60-70 dBA L_{dn} as "tentatively compatible", an exterior noise exposure of 70-75 dBA L_{dn} as "normally incompatible" and an exterior noise exposure exceeding 75 dB L_{dn} as "completely incompatible". Exterior noise level standards are typically applied to individual outdoor activity areas. Outdoor activity areas generally include backyards of single-family residences, individual patios or decks of multi-family developments and common outdoor recreation areas of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

• "Completely Compatible" means that the specified land use is satisfactory and both the indoor and outdoor environments are pleasant.

• "Tentatively Compatible" means that noise exposure may be of concern, but common building construction practices will make the indoor living environment acceptable, even for sleeping quarters, and outdoor activities will not be unduly disturbed by noise.

• "Normally Incompatible" means that noise exposure warrants special attention, and new construction or development should generally be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. Careful site planning or exterior barriers may be needed to make the outdoor environment tolerable.

• "Completely Incompatible" means that the noise exposure is so severe that new construction or development should generally not be undertaken.

TABLE I: EXTERIOR NOISE COMPATIBILITY GUIDELINES FOR NOISE FROM ALL SOURCES, INCLUDING TRANSPORTATION NOISE (24-HOUR DAY-NIGHT AVERAGE [CNEL/Ldn])

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
All Residential (Single- and Multi-Family)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Commercial	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	(1)
Public Parks (Lands designated as Open Space on which public parks are located or planned)	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA

(1) No "Completely Incompatible" category is shown for commercial uses because not all commercial uses are incompatible with noisy environments. The City may determine as part of the review of individual development proposals that some types of commercial uses are incompatible with noise environments in excess of 75 dBA CNEL.

Additionally, the Noise Element requires that interior noise levels attributable to exterior transportation noise sources not exceed 45 dB L_{dn}. The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

The following are the City's standards for maximum exterior non-transportation noise levels to which land designated for residential land uses may be exposed for any 30-minute period on any day.

- Where existing ambient noise levels exceed these standards, the ambient noise level shall be highest allowable noise level as measured in dBA L_{eq} (30 minutes).

- The noise levels specified (below in Table II) shall be lowered by 5 dB for simple tonal noises (such as humming sounds), noises consisting primarily of speech or music, or for recurring impulsive noises (such as pile drivers, punch presses, and similar machinery). Example: The Single Family/Duplex standard from 10 p.m. to 7 a.m. for these types of noises is 45 dBA.

TABLE II: EXTERIOR NOISE LEVEL STANDARDS FOR NON-TRANSPORTATION NOISE, MEASURED AS dBA Leq (30 MINUTES)

Land Use Type	Time Period	Maximum Noise Level (dBA)
Single-Family Homes and Duplexes	10 p.m. to 7 a.m.	50
	7 a.m. to 10 p.m.	60
Multiple Residential 3 or More Units Per Building (Triplex +)	10 p.m. to 7 a.m.	55
	7 a.m. to 10 p.m.	60

PROJECT SITE NOISE EXPOSURE

The project site is located south of Adell Street, between N. D Street and Austin Avenue. N. D Street is considered an arterial roadway. The project site is exposed to traffic noise associated with vehicles along N. D Street, and to a lesser extent along Adell Street and Austin Avenue. However, due to relatively low traffic volumes along both Austin Avenue and Adell Street, these roadways are not part of the Madera CTC traffic model significant roadway network. Noise levels associated with traffic on these roadways is not considered to be a significant source of project site noise exposure. As such, this analysis focuses on traffic noise exposure associated with vehicles on N. D Street. The distance from the center of the closest proposed individual backyards to the centerline of N. D Street is approximately 60 feet.

Traffic Noise Exposure

Noise exposure from traffic on N. D Street was calculated for existing and future (2046) conditions using the FHWA Traffic Noise Model and traffic data obtained from Madera CTC. A description of the FHWA traffic noise model and methodology used for the analysis is provided below.

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise level measurements and concurrent traffic counts were conducted by WJVA staff within the project site on November 16, 2023. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. The traffic noise measurement site was located at a setback distance of approximately 40 feet from the centerline of N. D Street. The speed limit was assumed to be 40 mph (miles per hour). The project vicinity and noise monitoring site location are provided as Figure 2. A photograph showing the N. D Street noise measurement site is provided as Figure 3.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2” microphone. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meter was calibrated in the field prior to use with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements. The microphone was located on a tripod at 5 feet above the ground. The project site presently consists of undeveloped land and a portion is currently used for industrial purposes.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table II.

TABLE II

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS COLETT-MARTIN SUBDIVISION, MADERA

	N. D Street
Measurement Start Time	8:40 a.m.
Observed # Autos/Hr.	540
Observed # Medium Trucks/Hr.	36
Observed # Heavy Trucks/Hr.	0
Observed Speed (MPH)	40
Distance, ft. (from center of roadway)	40
L_{eq}, dBA (Measured)	64.5
L_{eq}, dBA (Predicted)	65.4
Difference between Predicted and Measured L_{eq}, dBA	**0.9**

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

From Table II it may be determined that the traffic noise levels predicted by the FHWA Model were 0.9 dB higher than those measured for the conditions observed at the time of the noise measurements for N. D Street. This is considered to be excellent agreement with the model and therefore no adjustments to the model are necessary.

Annual Average Daily Traffic (AADT) data for N. D Street in the project vicinity was obtained from Madera CTC. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. A speed limit of 40 mph was assumed for the roadway. Table III summarizes annual average traffic data used to model noise exposure within the project site.

TABLE III

TRAFFIC NOISE MODELING ASSUMPTIONS
COLETT-MARTIN SUBDIVISION, MADERA

	N. D Street	
	Existing Conditions	2046 Traffic Conditions
Annual Avenue Daily Traffic (AADT)	2,615	2,226
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	40	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	

Sources: Madera CTC
WJV Acoustics, Inc.

Using data from Table III, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed backyards from N. D Street. Table IV provides the noise exposure levels for N. D Street for future 2046 traffic conditions, at the closest proposed residential lots to the roadway.

TABLE IV

MODELED TRAFFIC NOISE LEVELS, N. D STREET, dB, L_{dn}
COLETT-MARTIN SUBDIVISION, MADERA

Roadway	Existing Conditions	2046 Conditions
N. D Street	58	57

Source: WJV Acoustics
Madera CTC

Reference to Table IV indicates that the traffic noise exposure at the closest lots to N. D Street would be approximately 58 dB L_{dn} for existing conditions and approximately 57 dB L_{dn} for future (2046) traffic conditions on N. D Street. Such noise exposure levels do not exceed the City of Madera exterior noise level standard of 60 dB L_{dn}. Mitigation measures are therefore not required for project noise compliance.

Interior Noise Exposure:

The City of Madera interior noise level standard is 45 dB L_{dn}. The worst-case noise exposure within the proposed residential development would be approximately 58 dB L_{dn}. This means that the proposed residential construction must be capable of providing a minimum (worst-case scenario) outdoor-to-indoor noise level reduction (NLR) of approximately 13 dB (58-45=13).

A specific analysis of interior noise levels was not performed. However, it may be assumed that residential construction methods complying with current building code requirements will reduce exterior noise levels by a minimum of 25 dB if windows and doors are closed. This will be sufficient for compliance with the City's 45 dB L_{dn} interior standard at the closest proposed homes along N. D Street. Requiring that it be possible for windows and doors to remain closed for sound insulation means that air conditioning or mechanical ventilation will be required.

CONCLUSIONS AND RECOMMENDATIONS

The proposed single-family residential development will comply with applicable City of Madera exterior noise level requirements provided the following mitigation measures are incorporated into final project design.

- Mechanical ventilation or air conditioning must be provided for all homes so that windows and doors can remain closed for sound insulation purposes.

The conclusions and recommendations of this acoustical analysis are based upon the best information known to WJV Acoustics Inc. (WJVA) at the time the analysis was prepared concerning the proposed site plan, traffic volumes and roadway configurations. Any significant changes in these factors will require a reevaluation of the findings of this report. Additionally, any significant future changes in motor vehicle technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

Respectfully submitted,

Walter J. Van Groningen
President

WJV:wjv

FIGURE 1: SITE PLAN

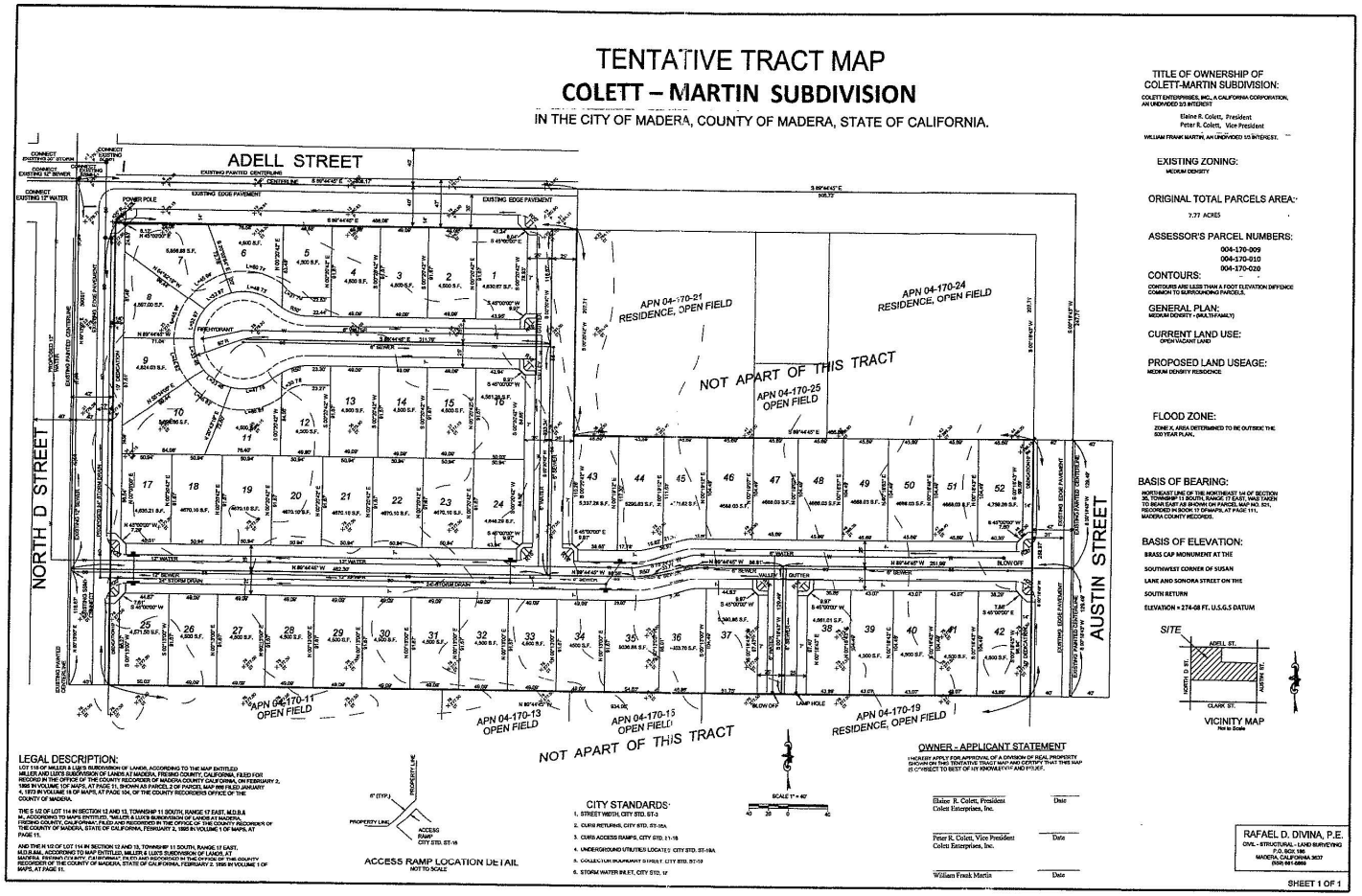

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FIGURE 2: PROJECT SITE VICINITY AND TRAFFIC NOISE MEASUREMENT LOCATION

FIGURE 3: TRAFFIC NOISE MEASUREMENT SITE

APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

A-2

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS