

Villa de Roma Subdivision Tentative Subdivision Map (TSM) 2020-05

Initial Study / Negative Declaration

January 2021

Prepared for:



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

Table of Contents

Chapter 1	Introduction.....	1-1
1.1	Regulatory Information	1-1
1.2	Document Format	1-1
Chapter 2	Project Description	2-1
2.1	Project Background	2-1
2.1.1	Project Title	2-1
2.1.2	Lead Agency Name and Address	2-1
2.1.3	Contact Person and Phone Number	2-1
2.1.4	Study Prepared By	2-1
2.1.5	Project Location.....	2-1
2.1.6	Latitude and Longitude.....	2-1
2.1.7	General Plan Designation	2-1
2.1.8	Zoning.....	2-1
2.1.9	Description of Project.....	2-2
2.1.10	Site and Surrounding Land Uses and Setting	2-2
2.1.11	Other Public Agencies Whose Approval May Be Required	2-3
2.1.12	Consultation with California Native American Tribes	2-3
Chapter 3	Determination	3-1
3.1	Environmental Factors Potentially Affected	3-1
3.2	Determination	3-2
Chapter 4	Impact Analysis.....	4-1
4.1	Aesthetics	4-1
4.1.1	Environmental Setting	4-1
4.1.2	Impact Assessment.....	4-2
4.2	Agriculture and Forestry Resources	4-3
4.2.1	Environmental Setting	4-3
4.2.2	Impact Assessment.....	4-4
4.3	Air Quality.....	4-5
4.3.1	Environmental Setting	4-5
4.3.2	Impact Assessment.....	4-8
4.4	Biological Resources	4-10

4.4.1	Environmental Setting	4-11
4.4.2	Impact Assessment.....	4-11
4.5	Cultural Resources.....	4-13
4.5.1	Environmental Setting	4-13
4.5.2	Impact Assessment.....	4-13
4.6	Energy	4-15
4.6.1	Environmental Setting	4-15
4.6.2	Impact Assessment.....	4-15
4.7	Geology and Soils	4-17
4.7.1	Environmental Setting	4-18
4.7.2	Impact Assessment.....	4-18
4.8	Greenhouse Gas Emissions.....	4-21
4.8.1	Environmental Setting	4-21
4.8.2	Impact Assessment.....	4-22
4.9	Hazards and Hazardous Materials	4-23
4.9.1	Environmental Setting	4-23
4.9.2	Impact Assessment.....	4-24
4.10	Hydrology and Water Quality	4-26
4.10.1	Environmental Setting	4-27
4.10.2	Impact Assessment.....	4-27
4.11	Land Use and Planning	4-30
4.11.1	Environmental Setting	4-30
4.11.2	Impact Assessment.....	4-30
4.12	Mineral Resources.....	4-31
4.12.1	Environmental Setting	4-31
4.12.2	Impact Assessment.....	4-31
4.13	Noise	4-32
4.13.1	Environmental Setting	4-32
4.13.2	Impact Assessment.....	4-32
4.14	Population and Housing	4-34
4.14.1	Environmental Setting	4-34
4.14.2	Impact Assessment.....	4-34
4.15	Public Services	4-35

4.15.1	Environmental Setting	4-35
4.15.2	Impact Assessment.....	4-35
4.16	Recreation	4-37
4.16.1	Environmental Setting	4-37
4.16.2	Impact Assessment.....	4-37
4.17	Transportation.....	4-39
4.17.1	Environmental Setting	4-39
4.17.2	Impact Assessment.....	4-39
4.18	Tribal Cultural Resources.....	4-41
4.18.1	Environmental Setting	4-41
4.18.2	Impact Assessment.....	4-42
4.19	Utilities and Service Systems	4-43
4.19.1	Environmental Setting	4-43
4.19.2	Impact Assessment.....	4-44
4.20	Wildfire.....	4-46
4.20.1	Environmental Setting	4-46
4.20.2	Impact Assessment.....	4-46
4.21	CEQA Mandatory Findings of Significance.....	4-48
4.21.1	Environmental Setting	4-48
4.21.2	Impact Assessment.....	4-49

List of Figures

Figure 2-1 Vicinity Map 2-4

Figure 2-2 Project Site 2-1

Figure 2-3 Tentative Subdivision Map 2-2

List of Tables

Table 2-1 Existing Uses, General Plan Designations, and Zone Districts of Surrounding Properties 2-3

Table 4-1. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants 4-8

Table 4-2. Unmitigated Long-Term Operational Emissions of Criteria Air Pollutants 4-8

Table 4-3. Maximum Daily Unmitigated Emissions of Criteria Air Pollutants 4-9

Table 4-4. Unmitigated Emissions of CO2e, 2026 4-22

Table 4-5. Unmitigated Emissions of CO2e, 2030 4-22

Appendices

Appendix A: CalEEMod Output Files

Chapter 1 Introduction

Provost & Pritchard Consulting Group has prepared this Initial Study/Negative Declaration (IS/ND) on behalf of the City of Madera to address the environmental effects of the Villa de Roma Subdivision (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 [Chapter 2 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, an 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 Mitigated ND 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/ND contains four chapters plus appendices. [Chapter 1 Introduction](#) provides an overview of the proposed Project and the CEQA process. [Chapter 2 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 the Lead Agency's determination based upon those analyses. [Chapter 4 Impact Analysis](#) presents the CEQA checklist and environmental analyses for all impact areas and the mandatory findings of significance. A brief discussion of the reasons why the project impact is anticipated to be less than significant or why no impacts are expected is included. The CalEEMod Output Files are provided as technical [Appendix A](#) at the end of this document.

Chapter 2 Project Description

2.1 Project Background

2.1.1 Project Title

Villa de Roma Subdivision
Tentative Subdivision Map (TSM) 2020-05

2.1.2 Lead Agency Name and Address

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

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Gary Conte, AICP, Planning Manager
559.661.5430

Applicant

Michael Pistoiresi, DMP Development Corp.
559.673.7007 x22

2.1.4 Study Prepared By

Provost & Pritchard Consulting Group
286 West Cromwell Avenue
Fresno, CA 93711

2.1.5 Project Location

The Project is located in Madera, California on Assessor's Parcel Number 006-380-009 (see [Figure 2-1](#)) on the south side of West Cleveland Avenue between Road 24 and North Westberry Boulevard (see [Figure 2-2](#)).

2.1.6 Latitude and Longitude

The centroid of the Project area is 36° 58' 20.928" N, 120° 6' 18.612" W.

2.1.7 General Plan Designation

The Project site is planned for Low Density Residential land uses.

2.1.8 Zoning

The Project site is zoned PD(8000) (*Planned Development (One unit for each 8,000 sq. ft. of site area)*).

2.1.9 Description of Project

Project Description

The applicant, DMP Development Corp, proposes to subdivide an approximately 50.18-acre site into 194 lots for single-family residential uses, over the course of four phases (“Project”). Two public access points to West Cleveland Avenue will be constructed, as well as providing access points to adjacent residential subdivisions to the west, south, and east. Circulation within the subdivision will be provided by public streets. Phasing is proposed from south to north (see [Figure 2-3](#)).

Phasing will consist of the construction of the following number of lots:

- Phase 1 – 65 lots
- Phase 2 – 51 lots
- Phase 3 – 44 lots
- Phase 4 – 34 lots

The Project is required to construct a 6-foot tall masonry wall along West Cleveland Avenue where proposed single-family lots abut a major street.

Construction of the Project would involve grading, paving, building construction, and painting. The Project would require trenching and installation of utilities.

Site access during construction would be via West Cleveland Avenue. Principal deliveries to the Project site would include construction equipment, imported earthwork materials, concrete and asphalt materials, building materials, and any additional hardware required to construct the Project. Material and equipment staging areas as well as construction crew parking will be contained on-site. Construction is limited by the City noise ordinance and General Plan Policy N-6 to between the hours of 7 am and 8 pm. At this time, no Project construction commencement schedule has been identified. Project construction commencement is subject to securing the permits required for the Project.

Actions Required

The City of Madera has jurisdiction over the review and approval of the Project. The City of Madera Planning Commission would be requested to take action on the following:

- Adoption of Negative Declaration;
- Approval of Tentative Subdivision Map 2020-05;
- Approval of a precise plan application.

The City of Madera would also issue the following ministerial permits for the Project if and once the above listed actions are taken:

- Grading Permit;
- Encroachment Permit; and
- Building Permit.

2.1.10 Site and Surrounding Land Uses and Setting

Environmental Setting

The 50.18-acre site consists of vacant land with the exception of weeds. The site elevation is approximately 250 feet above mean sea level and generally slopes towards the west. Soils consist of loam to sandy loam

texture with moderate to high infiltration rates and are moderate to well drained. Depth to groundwater is estimated to be approximately 205 feet. The hydrologic gradient is estimated to trend to the southwest. The Fresno River is located approximately 1,300 feet south of the site.

Surrounding Land Uses

The site is bordered to the west, south, and east by residential subdivisions, both existing and under construction. The site is bordered to the north, across West Cleveland Avenue, by vacant agricultural land.

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	Industrial; Resource Conservation/Agriculture	I; RCO
East	Single-Family Residential, Existing and Under Construction	Low Density Residential	PD(8000)
South	Single-Family Residential, Under Construction	Low Density Residential	PD(8000)
West	Single-Family Residential, Under Construction	Low Density Residential	PD(8000)
I – Industrial RCO – Resource Conservation and Open Space PD(8000) - Planned Development (One unit for each 8,000 sq. ft. of site area)			

2.1.11 Other Public Agencies Whose Approval May Be Required

Other agencies, including but not limited to the following, may have authority to issue permits prior to Project implementation:

- San Joaquin Valley Air Pollution Control District; and
- Central Valley Regional Water Quality Control Board.

2.1.12 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, 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 a request for formal consultation. Tribes have 30 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.

The City of Madera has not received a request from any California Native American tribes that are traditionally and culturally affiliated with the geographic area or that has otherwise requested to be notified about projects in the City of Madera.

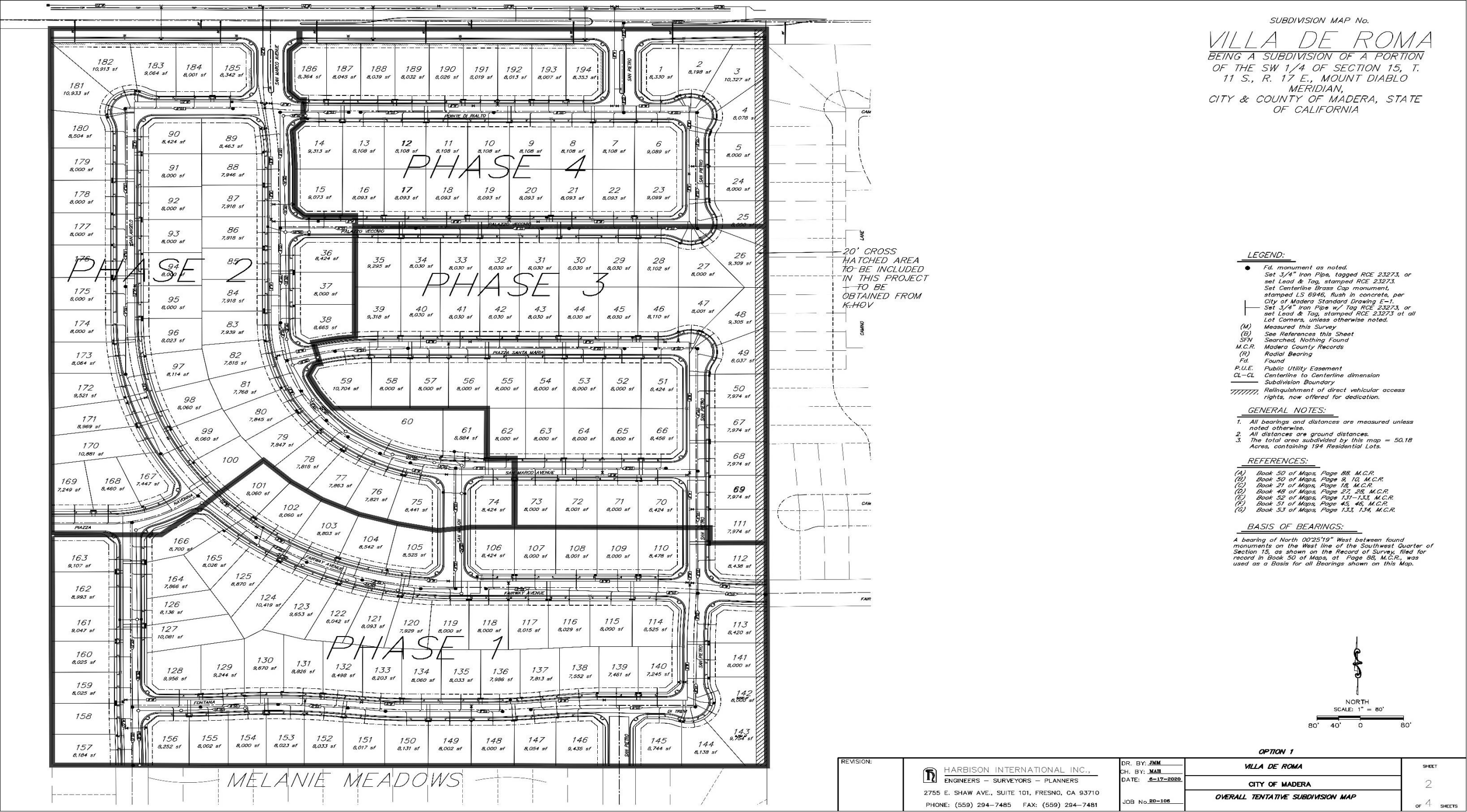
Figure 2-1 Vicinity Map



Figure 2-2 Project Site



Figure 2-3 Tentative Subdivision Map 2020-05



Chapter 3 Determination

3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follows in **Chapter 4**, 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.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture & Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> 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).

3.2 Determination

On the basis of this initial study:

- ☒ 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

Gary Conte, AICP, Planning Manager

Printed Name/Position

January 7, 2021

Date

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1.1 Environmental Setting

The Project site is currently vacant land surrounded by residential developments existing and under construction at a density consistent with the General Plan to the west, south, and east. Vacant land designated for industrial and agricultural uses lie to the north across Cleveland Avenue. Existing sources of lighting in the vicinity of the Project include streetlights and exterior lighting from nearby residential development. There are no State or county designated scenic highways or historical buildings or properties present in the Project vicinity.

4.1.2 Impact Assessment

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

No impact. Scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space, mountain ridges, ocean views). The Project is not located near a scenic vista, nor does the Project provide notable scenic values such as undisturbed open space, prominent landforms, or features. The Project will not result in the obstruction of federal, State, or locally classified scenic areas, historic properties, community landmarks, or formally classified scenic resources, such as a scenic highway, national or State scenic area, or scenic vista. Therefore, there would be *no impact*.

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

No impact. The Project is not located along a State-designated Scenic Highway.¹ Furthermore, there are no notable trees, rock outcroppings, or historical buildings on the Project site that would be affected, and the Project would not alter long-range views to ridgelines or other natural features. Therefore, there would be *no impact*.

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?

Less than significant impact. Installation of the proposed Project would represent a change in the existing visual character of the Project site and its surroundings; however, the Project will not substantially degrade the existing visual character or quality of the site and its surroundings. Nor would the Project conflict with applicable zoning and other regulations governing scenic quality. The Project would have a *less than significant impact* on visual character.

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. Development of the Project will introduce new sources of light and glare. The site is within an urbanized area which has existing sources of light and glare. Lighting sources within the Project's vicinity provide for traffic safety and security, as well as contributing visually to the developing landscape. Existing light sources within the Project's vicinity currently affect day and nighttime views in the Project area to a degree equal to or greater than the light sources proposed by the Project. Compliance with California Building Code (Title 24, California Code of Regulations) standards would ensure that light and glare impacts from the proposed Project would be *less than significant*.

¹ California Department of Transportation website, Officially Designated State Scenic Highways, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed November 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.2.1 Environmental Setting

Pursuant to the California Department of Conservation, the Project site is located on land identified as "Grazing Land".² Grazing Land is defined as land on which the existing vegetation is suited to the grazing of livestock. Neither the Project site nor surrounding properties are subject to a Williamson Act contract. The site is designated and zoned for residential uses in both the City's General Plan and Zoning Code.

² California Department of Conservation, California Important Farmland Finder, <https://maps.conservation.ca.gov/planning/DataViewer/California> Important Farmland: 2016, accessed November 2020.

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 Project would not convert land classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use as the Project site is not classified as such. Therefore, there would be *no impact*.

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

No impact. The Project would not conflict with existing zoning for agricultural use and there are no Williamson Act contracts affecting the Project site or surrounding properties. Therefore, there would be *no impact*.

- 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. Neither the Project site nor surrounding properties are defined as forest land (as defined by 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)). Therefore, there would be *no impact*.

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

No impact. The Project site neither contains nor is adjacent to forested lands. Furthermore, the Project site and its adjacent lands are not designated or zoned for timberland or timberland protection. Thus, the Project would not conflict with or result in the loss of forest land or conversion of forest land to a non-forest use. Therefore, there would be *no impact*.

- 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 Project has not been in agricultural use for at least four years. Surrounding properties have either been developed for residential purposes or remain fallow. Accordingly, the proposed Project would not introduce changes in the existing environment that would result in the conversion of farmland to a non-agricultural use or conversion of forest land to a non-forest use. Therefore, there would be *no impact*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.3.1 Environmental Setting

The Project site is located within the San Joaquin Valley Air Basin (SJVAB). The SJVAB, which occupies the southern half of California's Central Valley, is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Other air quality regulatory agencies that share responsibility with regulating SJVAB's air quality to ensure that all State and federal ambient air quality standards are attained within the SJVAB include the California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA). The SJVAPCD, which is responsible for the attainment of State and federal air quality standards in the SJVAB, develops rules, regulations, and policies to comply with applicable State and federal air quality legislation.

The SJVAPCD air quality-related planning documents, rules, and regulations applicable to this Project include:

Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI provides assistance in evaluating potential air quality impacts of projects in the SJVAB, by providing guidance on evaluating short-term (construction) and long-term (operational) air emissions. The GAMAQI provides criteria and thresholds for determining whether a project may have a significant adverse air quality impact, specific procedures and modeling protocols for quantifying and analyzing air quality impacts, methods to mitigate air quality impacts, and information for use in air quality assessments and environmental documents. 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) or 100 pounds per day.

Short-Term Emissions of Ozone Precursors (ROG and NO_x): 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 or 100 pounds per day.

Long-Term Emissions of Particulate Matter (PM₁₀): Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of PM₁₀ that exceed 15 TPY or 100 pounds per day.

Long-Term Emissions of Ozone Precursors (ROG and NO_x): Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of ROG or NO_x that exceeds 10 TPY or 100 pounds per day.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, PM_{2.5}, and PM₁₀, if the Project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ 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.

Rule 4601: Architectural Coatings. This rule requires Projects to utilize architectural coatings, such as paints, that have a low Volatile Organic Compound concentration. This rule is expected to become more stringent in 2022.

Rule 4901: Wood Burning Fireplaces and Wood Burning Heaters. This rule prohibits the installation of wood burning fireplaces, low mass fireplaces, masonry heaters, or wood burning heaters in new developments that have access to natural gas and are less than 3000 feet above sea level.

Rule 8011 General Requirements: Fugitive Dust Emission Sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. The SJVAPCD requires the implementation of control measures for fugitive dust emissions. For Projects in which construction-related activities would disturb equal to or greater than one (1) acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD approved "Dust Control Plan" or "Construction Notification Form," before issuance of the first grading permit, be made a condition of approval.

Rule 9510 Indirect Source Review. This rule requires Project applicants to reduce operational emission of oxides of nitrogen (NO_x) by 33 percent of the Project's operational baseline and 50 percent of the Project's operational suspended particulate matter less than 10 microns in diameter (PM₁₀) emissions. Projects subject to SJVAPCD's District Rule 9510 are required to submit an Air Impact Assessment (AIA) application to the SJVAPCD no later than applying for final discretionary approval of a proposed Project, and to pay any applicable off-site mitigation fees before issuance of the first building permit.

Air quality is determined by the type and amount (concentration) of contaminants emitted into the atmosphere, the size and topography of the SJVAB, and its meteorological conditions. National and State air quality standards specify the upper limits of concentrations and duration in the ambient air for the following air pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), suspended particulate matter less than 10 microns in diameter (PM₁₀), suspended particulate matter less than 2.5 microns in diameter (PM_{2.5}), sulfur dioxide (SO₂) and lead (Pb). These pollutants are commonly referred to as "criteria pollutants." The SJVAPCD also conducts monitoring for two other State standards: sulfates and visibility.

The SJVAPCD, together with the CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring station closest to the Project site is the Madera – 28261 Avenue 14 monitoring station. The pollutants monitored at this station are O₃, PM_{2.5}, and PM₁₀. Air quality trends for CO, NO₂, and SO₂ are not monitored at this air quality monitoring station. Madera County – Road 29½, north of Avenue 8 monitoring station monitors NO₂. The nearest station monitoring CO and SO₂ is in Fresno – 3727 North First Street. The 2017 to 2019 monitoring results from these stations indicate the State 1-hour O₃ standard was exceeded 3 times in 2017, 2 times in 2018, and an unknown number of times 2019. Additionally, the State 8-hour O₃ standard was exceeded 29 times in 2017, 17 times in 2018, and unknown number of times in 2019. Furthermore, the federal 8-hour O₃ standard was exceeded 27 times in 2017, 14 times in 2018 and 10 times in 2019. The State PM₁₀ standard was exceeded 16 times in 2017 and 23 times in 2018. The CO, NO₂, and SO₂ standards were not exceeded in this area during the 3-year period.³

The CARB is required to designate areas of the State as attainment, non-attainment, or unclassified for all State standards. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A non-attainment designation indicates that a pollutant concentration violated that standard at least once, excluding those occasions when the violation was caused by an exceptional event, as defined in the criteria. An unclassified designation signifies that data does not support either an attainment or non-attainment status. The California Clean Air Act divides the air districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category. The USEPA also designates areas as attainment, non-attainment, or classified. The air quality data are also used to monitor progress in attaining air quality standards.

The CARB has designated the SJVAB as being a severe non-attainment for 1-hour O₃, and non-attainment for 8-hour O₃, PM₁₀, and for PM_{2.5}. The CARB has designated the Air Basin as attainment for NO₂, SO₂, Pb, and as an attainment / unclassified area for CO and all other air contaminants. The USEPA has designated the SJVAB as being an extreme non-attainment area for 8-hour O₃, and non-attainment for PM_{2.5}. USEPA has designated the SJVAB as attainment / unclassified for CO, NO₂, SO₂ and no designation / classification for PM. There is no federal standard for 1-hour O₃.⁴

³ CARB. iADAM Air Quality Statistics. Website: <https://www.arb.ca.gov/adam>. Accessed December 2020.

⁴ CARB. Maps of State and Federal Area Designations. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>. Accessed December 2020.

There are no existing stationary sources that generate air quality emissions on the Project site.

Short-term and long-term emissions associated with the Project were calculated using California Emissions Estimator Model (CalEEMod, Version 2016.3.2) based on Project information available. Emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in [Appendix A](#).

4.3.2 Impact Assessment

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

Less than significant impact. The proposed Project would not exceed established emission thresholds (see [Table 4-1](#) and [Table 4-2](#)); therefore, the Project will not conflict with or obstruct implementation of the applicable air quality plan and the impacts would be *less than significant*.

Table 4-1. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Annual Proposed Project Emissions ¹	0.9684	4.0572	3.1796	0.0064	0.7209	0.3837
<i>SJVAPCD Significance Thresholds</i>	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to [Appendix A](#) for modeling results and assumptions. Totals may not sum due to rounding.

A quantified analysis of the Project's long-term operational emissions was also conducted using CalEEMod version 2016.3.2 based on information available. According to the CalEEMod results, the Project would have a *less than significant impact* on air quality when compared to the significance thresholds of annual criteria pollutant emissions (see [Table 4-2](#)) for long-term operational activities.

Table 4-2. Unmitigated Long-Term Operational Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Annual Proposed Project Emissions ¹	2.0062	1.6863	6.8407	0.0200	1.8435	0.5262
<i>SJVAPCD Significance Thresholds</i>	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to [Appendix A](#) for modeling results and assumptions. Totals may not sum due to rounding.

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

Less than significant impact. The Air District has established a screening threshold of 100 pounds per day to determine whether or not a Health Risk Assessment would be necessary to analyze the health impacts of a project. The Project would not expose sensitive receptors to substantial pollutant concentrations. The nearest sensitive receptors to the Project site are single-family homes, either existing or under construction, abutting the Project to the west, south, and east. No schools, convalescent homes, hospitals or other sensitive receptors are within a one-half mile of the Project site. Therefore, there would be a *less than significant impact*.

Table 4-3. Maximum Daily Unmitigated Emissions of Criteria Air Pollutants

Source	Daily Emissions (in Pounds)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction – Summer	29.3542	46.4489	31.5626	0.0637	10.8242	5.4677
Construction – Winter	29.3511	46.4584	31.4628	0.0635	10.8242	5.4677
Operations – Winter	11.2113	11.1220	47.0806	0.1182	10.8325	3.1878
Operations - Summer	12.2493	10.6865	50.5718	0.1294	10.5032	2.8585
<i>SJVAPCD Significance Thresholds</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions. Totals may not sum due to rounding.

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. During construction activities, construction equipment exhaust and application of asphalt, structural coating and other construction applications would temporarily emit odors. However, construction and operation activities are not anticipated to generate substantial odors that would affect a substantial number of people. Therefore, the Project would result in a *less than significant impact*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.4.1 Environmental Setting

Neither the City of Madera General Plan Update nor its Environmental Impact Report (EIR) identified threatened or endangered species in the Project area. There are no critical habitats on the Project site⁵.

The Project site is void of any natural features, such as seasonal drainages, riparian or wetland habitat, rock outcroppings, or other native habitat or associated species. No shrubs or trees are present on or immediately adjacent to the Project site. The property is periodically disced for weed control. No wetlands have been reported or observed on the site.⁶

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. The Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the Project would result in a *less than significant impact*.

- 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?

No impact. The Project site and its surroundings are absent of any riparian habitat, sensitive natural communities of special concern or of any critical habitat designated by the California Department Fish and Wildlife or by the United States Fish and Wildlife Service as critical habitat essential for the preservation and recovery of State and/or federally listed plant or animal species. The Project would not result in any direct or indirect impacts to riparian corridor, stream channel, or potentially viable habitat in which sensitive species could be found. Therefore, this Project would have *no impact*.

- 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?

No impact. Project site soils are composed of loam to sandy loam texture. Soils have moderately coarse textures, moderate to high infiltration rates, and are moderate to well drained. The Project site is void of any vegetation and does not have the hydrology necessary to create wetlands. Further, no wetlands have been reported or observed on site. Therefore, the proposed Project would have *no impact* on federally protected wetlands as defined by Section 404 of the Clean Water Act.

⁵ USFWS. Information for Planning and Conservation. Website: <https://ecos.fws.gov/ipac/>, accessed November 2020.

⁶ Natural Wetlands Inventory, <https://www.fws.gov/wetlands/data/mapper.html>, accessed November 2020.

- 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?

No impact. The Project site does not present any features of a river, creek, stream, or other form of water course, nor does the Project site include features of a wildlife corridor. The urban surroundings, busy roads, and domestic animals near the Project would be a deterrent to natural wildlife. Therefore, the Project would have **no impact** on the movement of any native resident or migratory fish or wildlife species or on an established native resident or migratory wildlife corridor.

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

No impact. There are no trees or vegetation within the Project site. The Project would not conflict with any applicable local policies or ordinances protecting biological resources and the City of Madera does not have a tree preservation ordinance. Therefore, the Project will have **no impact**.

- 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?

No impact. The Project site and the immediate area surrounding the Project site are not within the boundary of an adopted or proposed local, regional, or State adopted habitat conservation plan (HCP), or similar types of conservation plans. Therefore, the Project would not conflict with the provisions of an adopted or proposed HCP or similar approved local, regional, or state habitat conservation plan. Therefore, the Project will have **no impact**.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.5.1 Environmental Setting

Based on the City of Madera General Plan Update and its Environmental Impact Report (EIR) dated April 29, 2009, no known recorded archeological sites or historic properties are within or in the immediate vicinity of the Project site. The EIR also did not indicate the presence of Native American traditional cultural place(s) within or adjacent to the Project site.

4.5.2 Impact Assessment

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

No impact. Based on the City of Madera General Plan Update EIR, the Project site and its surroundings are absent of any known historic properties. The Project is devoid of structures. No historic properties would be affected by the Project. Therefore, the Project would result in *no impact*.

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

Less than significant impact. While no known archaeological deposits are present on the Project site, it is possible that unknown buried archaeological materials could be found during ground disturbing activities, including unrecorded Native American prehistoric archaeological materials. If such resources were discovered, the impact to archeological resources could be significant. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition, in accordance with the provisions of Public Resources Code Section 21083.2, would reduce the impact to *less than significant*.

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

Less than significant impact. There are no known formal cemeteries or known interments to have occurred on the Project site. Though unlikely, there is the possibility human remains may be present beneath the Project site. Should human remains be discovered during ground disturbing construction activities, such discovery could be considered significant. Any human remain encountered during ground disturbing activities are required to be treated in accordance with California Code of Regulations Section 15064.5(e), Public Resources Code Section 5097.98, and California Health and Safety Code Section 7050.5, which state the mandated procedures of conduct following discovery of human remains. Additionally, General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that all construction must stop if any human remains are uncovered, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed. If human remains are determined to be of possible Native American descent, the Coroner shall notify the Native American Heritage Commission who will appoint a "Most Likely Descendent" and the local Native American Tribe representative to identify and preserve Native American remains, burial, and cultural artifacts. Implementation of the required condition and above-referenced sections would reduce the impact to ***less than significant***.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.6.1 Environmental Setting

The Project site is currently devoid of any energy-consuming equipment. The site is periodically disced for weeds.

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?**

Less than significant impact. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the CalEEMod model. Fuel use associated with construction vehicle trips generated by the Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the Project was based on (1) the projected number of trips the Project will generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 169,066 gallons of diesel fuel and 6,370 gallons of gasoline fuel⁷. California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

⁷ Emissions for the Project were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

The residential development anticipated annual energy consumption is approximately 1,221,200 kilowatt-hours and 47,688 therms of natural gas⁸. Energy consumption of residential homes is currently governed by the 2019 California Building Code, Part 6 for the structure itself, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reaches its end-of-life and necessitates replacement. The Project will have a *less than significant impact*.

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

Less than significant impact. State and local authorities regulate energy use and consumption. These regulations at the State level intended to reduce energy use and greenhouse gas (GHG) emissions. These include, among others, Assembly Bill (AB) 1493 – Light-Duty Vehicle Standards; California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards; and California Code of Regulations Title 24, Parts 6 and 11 – California Energy Code and Green Building Standards. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, the Project will have a *less than significant impact*.

⁸ Emissions for the Project were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.7.1 Environmental Setting

The Project site is located in the central portion of the San Joaquin Valley. The San Joaquin Valley is part of the Great Valley Geomorphic Province topographic and structural basin bound on the east by the Sierra Nevada and the west by the Coast Range. The Sierra Nevada, a fault block dipping gently to the southwest, is composed of igneous and metamorphic rocks of pre-Tertiary age which comprise the basement complex beneath the Valley. The subsurface of the Project site and surrounding vicinity is characterized by a thick sequence of unconsolidated sediments. Subsurface material beneath the site is primarily composed of alluvial fan deposits and floodplain over-bank deposits including interbedded silts, sands, clays, and gravels. Project site soils are of sandy loam of moderately to excessively drained.

There are no known faults on the Project site. The San Andreas fault and San Joaquin faults are approximately 85 and 47 miles west, respectively⁹. The Project site is subject to relatively low seismic hazards compared to many other parts of California. Potential ground shaking produced by earthquakes generated on regional faults lying outside the immediate vicinity in the Project area may occur. Due to the distance of the known faults in the region, no significant ground shaking is anticipated on this site. Seismic hazards on the built environment are addressed in the California Building Code (CBC) that is utilized by the City of Madera Building Department to monitor safe construction within the City limits.

The Project site and the greater City of Madera consists of lands with less than two percent slope grade, and therefore are not subject to landslides.

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?

Less than significant impact. Groundshaking intensity is largely a function of distance from the earthquake epicenter and underlying geology. Generally, the City of Madera, which is located on deep alluvial and unconsolidated sediments, could experience strong shaking during a large earthquake. The most common impact associated with strong ground shaking is damage to structures. The CBC establishes minimum standards for structures located in regions subject to ground shaking hazard areas. Structures constructed on-site would be required by state law and City ordinances to be constructed in accordance with CBC and to adhere to all current earthquake construction requirements. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the 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. No known faults with evidence of historic activity cut through the valley soils in the Project area. Due to the

⁹ California Department of Conservation. Data Viewer. Website: <https://maps.conservation.ca.gov/cgs/DataViewer/>. Accessed December 2020.

geology of the Project area and its distance from active faults, the potential for loss of life, property damage, ground settlement, or liquefaction to occur in the Project area is considered minimal. Therefore, the Project would result in a *less than significant impact*.

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

Less than significant impact. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Liquefaction describes a phenomenon in which a saturated soil loses strength during an earthquake as a result of induced shearing strains. Lateral and vertical movement of the soil mass combined with loss of bearing usually results. Loose sand, high groundwater conditions (where the water table is less than 30 feet below the surface), higher intensity earthquakes, and particularly long duration of ground shaking are the requisite conditions for liquefaction. None of these conditions are present at the Project site. Therefore, the Project would result in a *less than significant impact*.

a-iv) Landslides?

No impact. The Project site is generally flat. Due to the flat and level topography, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the Project would result in *no impact*.

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

Less than significant impact. Earthmoving activities associated with the Project would include excavation, trenching, grading, and construction. These activities could expose soils to erosion processes; however, the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Developers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with residential construction but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. The Project would disturb more than one acre of soil; however, since the site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the Project's impacts would be *less than significant*.

- 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. Due to the relatively flat topography of the Project site and greater surrounding area and distance from active faults, landslides lateral spreading, subsidence, liquefaction or collapse are not considered a potentially significant geologic hazard. Therefore, the Project would result in a *less than significant impact*.

- 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. The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) and would not create substantial direct or indirect risks to life or property. The Project soil types consist of loam to sandy loam textures. Therefore, the Project would result in a *less than significant impact*.

- 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. The Project would not require the construction or use of septic tanks or alternative wastewater disposal systems. Therefore, there would be *no impact*.

- f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than significant impact. There are no known unique paleontological resources or geological features on the Project site; however, during construction unique paleontological or geological resources could be unearthed. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition, in accordance with the provisions of Public Resources Code Section 21083.2, would reduce the impact to *less than significant*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.8.1 Environmental Setting

Climate change is a public health and environmental concern around the world. Globally, temperature, precipitation, sea level, ocean currents, wind patterns, and storm activity are all affected by the presence of greenhouse gas (GHG) emissions in the atmosphere. Human activity contributes to emissions of six primary GHG gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of GHGs are linked to climate change.

In 2006, the California State Legislature adopted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, which aims to reduce GHG emissions in California. GHGs, as defined by AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires the CARB, the State agency that regulates statewide air quality, to adopt rules and regulations that would achieve GHG emissions equivalent to 1990 statewide levels by 2020. The Air District adopted a 29 percent less than Business-As-Usual (BAU) reduction in GHGs to meet the 2020 standard.

In 2016, Senate Bill (SB) 32 was adopted, which established a goal to achieve GHG emissions equivalent to 40 percent below 1990 statewide levels by 2030. No project-level reduction standard has been adopted to meet the 2030 standard established by SB 32; however, a recommended local plan-level emissions target of no more than 6 metric tons of carbon dioxide emissions (MTCO₂e) per capita per year has been identified by CARB in the 2017 Climate Change Scoping Plan. This target has been used in this analysis as an interim threshold of significance for 2030 in-lieu of an adopted project-level standard.

The Conservation Element of the 2011 City of Madera General Plan Update includes several goals, policies, and programs in the Air Quality, GHG Emissions, and Climate Change sections that address and promote practices that meet or exceed all State and federal standards and meet or exceed all current and future State-mandated targets for reducing GHG emissions. The City also requires applicants for all public and private development to integrate appropriate methods that reduce GHG emissions consistent with the Energy and Green Building sections of the Conservation Element, General Plan Policies CON-40 through 46.

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?

Less than significant impact. The Project would generate GHG emissions and contribute to global warming. GHG emissions from construction activities are one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the Project. Long-term GHG emissions consist of vehicular emissions, the consumption of energy produced by carbon-based sources, and the decomposition of solid waste generated from the Project. According to the CalEEMod results for unmitigated construction and operation emissions (see [Table 4-4](#) and [Table 4-5](#)), the Project would not exceed the thresholds of significance. Therefore, emissions would be *less than significant*.

Table 4-4. Unmitigated Emissions of CO₂e, 2026

Source	Annual Carbon Dioxide Equivalent Emissions (MT CO ₂ e/Year)		
	BAU (2005)	2026	Reduction (%)
Operational Emissions	4,450.3379	2,229.4377	49.9
Amortized Construction Emissions	86.9214	75.3075	13.4
Total Emissions	4,537.2593	2,304.7452	49.2
2020 Reduction Standard (minimum)			29
Exceed Thresholds?			No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

Table 4-5. Unmitigated Emissions of CO₂e, 2030

Source	Annual Carbon Dioxide Equivalent Emissions (MT CO ₂ e/Year)	
	2030	Per Capita
Operational Emissions	2,052.5108	2.73
Amortized Construction Emissions	75.3075	0.1
Total Emissions	2,127.8183	2.83
2030 MTCO₂e Per Capita Per Year Goal (maximum)		6.0
Exceed Thresholds?		No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

- 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. Staff found that the Project is consistent with all General Plan policies, will incorporate solar photovoltaic panels as required by the 2019 version of Title 24, Part 6, is required to incorporate water-efficient landscaping, and is required to make the necessary road improvements to improve traffic flow. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the Project would have a *less than significant impact*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.9.1 Environmental Setting

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and State laws and regulations. Laws and regulations established by the USEPA are enforced by the California Environmental Protection Agency (CAL-EPA). CAL-EPA also oversees the unified hazardous waste and hazardous materials management regulatory program. California Health and Safety Code Section

25501 defines a hazardous material as “any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.” Section 21092.6 of the CEQA Statutes requires the Lead Agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a proposed project and any alternative are identified as contaminated sites.

The required lists include the California Department of Toxic Substance Control’s (DTSC) online EnviroStor database¹⁰ and the State Water Resources Control Board’s (SWRCB) online GeoTracker database¹¹. These two databases include hazardous release sites, along with other categories of sites or facilities where known or suspected sources of contamination were identified. A search of DTSC’s EnviroStor and SWRCB’s GeoTracker database in November 2020 revealed no hazardous material release sites on or within 1,000 feet of the Project site.

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?

Less than significant impact. The Project would not involve the routine transport of hazardous waste, thus no impacts to the public or the environment would occur. Potential impacts during construction of the Project include potential spills associated with the use of fuels and lubricants in construction equipment. These potential impacts would be short-term in nature and would be reduced to less than significant levels through compliance with applicable local, State, and federal regulations, as well as the use of standard equipment operating practices. Project operations would consist of consumer grade pesticides, fertilizers, and petroleum-based fuels. These potentially hazardous materials, however, would not be of a type or occur in sufficient quantities to pose a significant hazard to public health and safety or the environment. Compliance with applicable laws and regulations would minimize hazards associated with the routine transport, use, or disposal of hazardous materials to the maximum extent practicable. Therefore, impacts would be *less than significant*.

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. There are no known hazardous materials found on the site. The Project would not 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. Therefore, impacts would be *less than significant*.

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?

No impact. There are no schools, existing or planned, within one quarter-mile of the Project. Therefore, there would be *no impact*.

¹⁰ Department of Toxic Substances Control. EnviroStor. Website: <https://www.envirostor.dtsc.ca.gov/public/>. Accessed November 2020.

¹¹ State Water Resources Control Board. GeoTracker. Website: <https://geotracker.waterboards.ca.gov/>. Accessed November 2020.

- 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?

No impact. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would not create a significant hazard to the public or the environment. Therefore, there would be *no impact*.

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

Less than significant impact. The Project is located within the Madera Municipal Airport Compatibility Policy Map of the 2015 Madera Countywide Airport Land Use Compatibility Plan. The Project site is located in Compatibility Zones C1 (Outer Approach/Departure Zone) and D (Other Airport Environs). Noise levels associated with the C1 and D zones are not anticipated to be above 60 decibels. Single-family residential uses are designated *Normally Compatible* in the D zone, although *Conditional* in the C1 zone, with a note that densities in the C1 Zone should average 0.5 du/ac, with a single acre density of 4 du/ac. An exception to this rule was made specifically for this development in ALUCP Policy 3.7.6. With regards to noise, residences in Zone C1 shall be feasibly placed as far as possible from the runway centerline. Therefore, the Project would result in a *less than significant impact*.

- 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 Project would not involve any permanent changes to public streets, roads, or evacuation infrastructure and it would not include the construction of any feature that might impair the implementation of any relevant emergency operation plan. Construction activities will cause impediments such as truck deliveries, hauling materials, and construction crews. The City Engineer imposed a condition of approval that the Project developer provide a construction route and traffic control plan for review and approval by the City Engineer. Moreover, the Project would not change existing emergency response and rescue access routes within the City or County of Madera. Therefore, there would be a *less than significant impact*.

- 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. The Project site is not located within an area of moderate, high, or very high Fire Hazard Severity for the Local Responsibility Area, nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility Area¹². Therefore, there would be *no impact*.

¹² Cal FIRE. Fire Hazard Severity Zones Maps. Website: <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>. Accessed November 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.10.1 Environmental Setting

The City of Madera is within the San Joaquin River Watershed and Basin Hydrological Study Area covering roughly 13,500 square miles, or approximately the southern two-thirds of the San Joaquin Valley. The San Joaquin River watershed is divided into numerous hydrologic areas and subareas. The Madera hydrologic area encompasses the southwestern and northwestern portions of the City and extends northwest to the City of Chowchilla, draining into the Fresno River and its tributaries. The Fresno River is the main hydrologic feature in the City. The river flows west from the Sierra Nevada Mountain Range before entering the Chowchilla Bypass in western Madera County. The Fresno River is dry throughout most of the year, with flows depending mainly on water releases from upstream water agencies.¹³

The City of Madera is not within or adjacent to the boundaries of a sole source aquifer. The nearest sole source aquifer is the Fresno County Sole Source Aquifer, located approximately 8 miles to the south.

FEMA FIRM Panel No. 06039C1155E (September 26, 2008) indicates that the Project site is located in Zone X¹⁴, an area of minimal flood hazard.

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. Clearing, grading, excavation, and construction activities have the potential to impact water quality through soil erosion and increased silt and debris discharged into runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Temporary storage of construction material and equipment in work areas or staging areas could create the potential for a release of hazardous materials, trash, or sediment to the storm drain system.

The Project would disturb more than one acre of soil on the Project site. Therefore, the proposed Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) GCP. The GCP requires the submittal of Permit Registration Documents (PRDs) to the SWRCB prior to the start of the construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, annual fee, signed certification statement, SWPPP, and post-construction water balance calculations. The SWPPP describes the incorporation of best management practices to control sedimentation, erosion, and the potential for hazardous materials contamination of runoff during construction.

Upon completion of the Project, stormwater would runoff into the permeable ground adjacent to homes or into the City's stormwater system. The Project would be required to implement applicable portions of the City's Storm Water Quality Management Program, ensuring that effective and adequate Best Management Practices would be in place to minimize the pollutant load in storm drainage, thereby protecting surface water quality. In addition, implementation of General Plan policies would further protect surface quality by requiring the Storm Water Quality Management Program to be updated to include newly available best management practices. The Project would not violate any water quality standards or waste

¹³ City of Madera, City of Madera General Plan Update, Draft Environmental Impact Report, p4.9-1.

¹⁴ Federal Emergency Management Agency. Flood Insurance Rate Map, Madera County and Incorporated Areas, Panel 1155 of 1385. Accessed November 2020.

discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, the Project impacts would be *less than significant*.

- 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 proposed 194-lot subdivision is within the City's water service area. According to the 2015 Urban Water Management Plan (UWMP), each person uses an average of 196 gallons of water each day. With an average 3.87 persons per household (751 persons), the Project would be expected to use approximately 147,196 gallons of water per day under normal operation, including domestic and landscape irrigation. This equates to approximately 165-acre feet per year (AFY). With a 2020 population of 65,415 per the California Department of Finance, water consumption without the Project is estimated to be approximately 14,290 AFY. The 2015 UWMP anticipated having a 2020 minimum supply of 15,700 AFY. Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin and the impacts would be *less than significant*.

- 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;

Less than significant impact. The Project site does not contain any waterways and therefore implementation of the Project would not alter the course of a stream or river. However, the Project would require grading or soil exposure during construction. If not controlled, the transport of these materials via local stormwater systems into local waterways could temporarily increase sediment concentrations. To minimize this impact, the proposed Project would be required to comply with all of the requirements of the State GCP, including preparation of PRDs and submittal of a SWPPP to the SWRCB prior to start of construction activities. Mandatory compliance with State regulations would ensure that impacts from erosion and siltation would be *less than significant*.

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

Less than significant impact. The Project would substantially increase the amount of impervious surface area on the Project site with the construction of roads, houses, sidewalks, and driveways. However, the requirement to construct curb and gutters, and to direct drainage to specified drainage basins will ensure impacts to flooding on- or off-site would be *less than significant*.

*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*

Less than significant impact. The Project would substantially alter the existing drainage pattern of the site or area. Storm runoff has been required by the City Engineer to drain into the Berry Home Ranch Basin located directly south of the Project site, and to construct the necessary stormwater conveyance systems to deliver the Project's runoff to this basin. The Project would be required to comply with the City's Master

Plan, ordinances, and standard practices for stormwater drainage. Therefore, the Project impacts would be *less than significant*.

iv) impede or redirect flood flows?

Less than significant impact. All Project-related storm flows and runoff will be captured on-site and percolated in the existing soil base or conveyed to a City drainage basin directly south of the Project site. Therefore, the Project impacts would be *less than significant*.

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

No impact. The Project is not located in flood hazard, tsunami, or seiche zones and it will not risk the release of pollutants due to Project inundation. Therefore, there would be *no impact*.

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 City of Madera, and thus the Project, is located in the Madera Subbasin. The City of Madera adopted the Joint Groundwater Sustainability Plan (GSP) in January 2020. The GSP includes two City of Madera projects, which include the installation of water meters and the construction of Berry Basin, a groundwater recharge basin¹⁵. The basin is currently under construction and the Project is required to install water meters. Therefore, the Project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Therefore, there would be a *less than significant impact*.

¹⁵ Madera Subbasin Coordination Committee. Madera Subbasin Sustainable Groundwater Management Act Joint Groundwater Sustainability Plan. January 2020. Website: <https://sgma.water.ca.gov/portal/gsp/preview/21>. Accessed December 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Environmental Setting

The Project site is within the City limits. The site is designated in the City's General Plan as Low Density Residential and zoned PD(8000) (Planned Development (*One unit for each 8,000 sq. ft. of site area*)). The proposed residential subdivision is a compatible residential land use and is consistent with all applicable General Plan policies and Zoning Ordinance development standards.

4.11.2 Impact Assessment

a) Would the project physically divide an established community?

No impact. The Project would not physically divide an established community. The Project is located on vacant land and proposes to connect to existing residential subdivisions adjacent to the Project site and to the adjacent major street. Therefore, there would be **no impact**.

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 Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be **no impact**.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 1974. 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.¹⁶ According to the findings of the City of Madera General Plan Update EIR, the Project site does not have the potential to affect the availability of any state or locally designated mineral resource.

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?

No impact. The Project site is not identified as containing any mineral deposits. Therefore, the Project would not 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. Therefore, there would be **no impact**.

- 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. The Project site is not identified as containing any mineral deposits. Therefore, the Project would not 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. Therefore, there would be **no impact**.

¹⁶ Public Resources Code, Section 2762(a)(1).

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.13.1 Environmental Setting

The Project site is a vacant lot located in a newly developed residential area, with existing homes to the east of the Project site and homes under construction to the south and west. To the north, across Cleveland Avenue, a designated arterial, exists a vacant parcel planned and zoned for industrial and agricultural land uses.

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 impact. The proposed Project would require the utilization of large construction equipment, including rollers, pavers, dozers, and graders. This type of equipment can have noise levels exceeding General Plan noise standards for residential land uses when measured 50 feet away from the noise source. General Plan Policies N-5, N-6, and MMC Section 3-11.02(B) requires the reduction of noise, including construction noise, to acceptable levels. The Project is required to limit construction hours by the City noise ordinance and General Plan Policy N-6 to between 7 am and 8 pm. Therefore, construction-related noise impacts would remain *less than significant*.

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

Less than significant impact. The Project site is located adjacent to the backyards of single-family residential lots. Construction of the Project is restricted to between the hours of 7:00 am and 8:00 pm pursuant to the City's noise ordinance and General Plan Policy N-6. The Federal Highway Administration (FHWA) has compiled noise measurement data regarding the noise-generating characteristics of various types of construction equipment. Typical background vibration decibel (VdB) levels measured from 50 feet away, according to the Federal Transit Administration (FTA) are approximately 50 VdB, with a level of 100 VdB resulting in minor cosmetic damage to fragile buildings. For infrequent events, such as construction, impacts would be significant to residences, the nearest sensitive receptor, if they exceed 80 VdB. Vibration velocity levels are typically not additive.¹⁷ Bulldozers generate approximately 58 VdB when measured 25 feet away. Given the type of equipment expected to be found during construction, it is not anticipated the Project would generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the Project would have a *less than significant impact*.

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

Less than significant impact. The Project is located within the Madera Municipal Airport Compatibility Policy Map of the 2015 Madera Countywide Airport Land Use Compatibility Plan. Portions of the Project are located in Compatibility Zones C1 (Outer Approach/Departure Zone) Residences in Zone C1 are required to be placed as far as possible from the runway centerline, however noise levels in the C1 and D are not likely to exceed 60 decibels. The subdivision design conforms to this requirement. Therefore, the Project would result in a *less than significant impact*.

¹⁷ Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. Website: 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. Accessed November 2020.

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Environmental Setting

The Project site is a vacant, undeveloped property zoned for residential land uses, and is surrounded by residential development, both existing and under construction, to the west, south, and east. Land to the north is undeveloped and planned and zoned for industrial and agricultural uses.

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. Implementation of the Project would result in the construction of up to 194 low density, single-family residential units. Construction of infrastructure serving the Project would indirectly extend infrastructure by providing connections to existing infrastructure. The Housing Element's most recent estimate was approximately 3.87 persons per household (pph), resulting in a population growth of approximately 751 persons within the Project. The General Plan considered a General Plan population estimate of 68,088 people by year 2030. As of January 1, 2020, the City's population was 65,415. The Project is consistent with the General Plan and in furtherance of the goals and objectives of the City's Housing Element and consistent with infrastructure needed for development anticipated under the General Plan. Therefore, the Project will have a *less than significant impact*.

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

No impact. The Project site is an existing vacant, undeveloped property. There are no existing homes on the site. Thus, the Project would not displace substantial numbers of existing people or housing and will not necessitate the construction of replacement housing elsewhere. Therefore, there would be *no impact*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Environmental Setting

Fire, emergency, medical, and police protection services for the Project site is provided by the City of Madera. The City of Madera has a contract service with CalFire to provide management and staffing of the City's fire stations and equipment. Ambulance services is provided by a private contractor. The Project site is located within the Madera Unified School District. The District oversees pre-K through 12 education services. Parks are operated and maintained by the City of Madera.

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 completed its review of the Project. The Fire Department required the Project to provide fire sprinklers and fire hydrants, consistent with the California

Fire Code requirements. No other requirements were imposed. Therefore, the Project would have a ***less than significant impact***.

Police Protection:

Less than significant impact. While the Project may result in the need for additional police staff, the police facility is adequate in size to support additional officers, and within a distance that would allow the department to maintain acceptable response times. Therefore, the Project will have a less than significant impact on police facilities and will not warrant the need for new or physically altered police facilities to maintain acceptable service ratios and meet performance objectives. The Project is required to pay all applicable impact fees, including those to offset impacts to police facilities. Therefore, the Project would have a ***less than significant impact***.

Schools:

Less than significant impact. The Project is located in the Madera Unified School District. The District has a student generation factor rate of .602 students per single-family dwelling. Based on the District's student generation factor rate, the project would generate a total of 117 students. California Government Code Sections 65995(h) and 65996(b) specifically set forth that payment of developer impact fees provide full and complete school facilities mitigation. Therefore, the Project would have a ***less than significant impact*** on school facilities.

Parks:

Less than significant impact. The Project would result in approximately 751 residents using the latest Housing Element pph ratio of 3.87. General Plan Policy PR-1 states that the City shall develop and maintain a complete system of public parks distributed throughout the City that provides opportunities for passive and active recreation at a minimum of 3 acres per 1,000 residents. The City currently has 324.47 acres of parkland¹⁸. With a 2020 population of 65,415 and the addition of 751 residents, the total amount of parkland required is 198.62 acres. The Project is also required to provide 2.25 acres of park space or pay an in-lieu fee pursuant to the City's Quimby Act Ordinance. The City has sufficient park space and therefore the Project would have a ***less than significant impact*** on parks.

Other Public Facilities:

No impact. Due to the nature of the Project, the Project would not result in a need for additional or other public facilities. There would be ***no impact***.

¹⁸ City of Madera. Website: <https://www.madera.gov/home/departments/parks-community-services/parks-trails/>. Accessed November 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.16.1 Environmental Setting

The City of Madera operates and maintains a number of recreational facilities in the City, including Town and Country Park, which is the nearest park to the Project site. Town and Country Park is located approximately one and on-half miles to the southeast of the site. General Plan Policy PR-1 states that the City shall develop and maintain a complete system of public parks distributed throughout the City that provides opportunities for passive and active recreation at a minimum of 3 acres per 1,000 residents. The City currently has 324.47 acres of parkland¹⁹. With a 2020 population of 65,415, there are about 4.9 acres per 1,000 residents provided. The City also maintains the river parkway trail, located along the south side of the Fresno River extending from the current City limits on the west to the Schnoor Avenue crossing where it continues along the north side of the Fresno River.

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?**

Less than significant impact. Increased demand for existing parks or other recreational facilities is typically driven by an increase in population. The Project would result in a net increase of residents at the Project site. However, the addition of the Project would result in a parks ratio of approximately 4.9 acres per 1,000 residents. Therefore, the Project would not contribute to the substantial deterioration of existing facilities. Therefore, there is a *less than significant impact*.

¹⁹ City of Madera. Website: <https://www.madera.gov/home/departments/parks-community-services/parks-trails/>. Accessed November 2020.

- 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. Increased demand for existing parks or other recreational facilities is typically driven by an increase in population. The Project would result in a net increase of residents at the Project site. However, the Project would be required to provide a park or pay an in-lieu fee in accordance with the City's Quimby Act Ordinance. Therefore, there is a *less than significant impact*.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.17.1 Environmental Setting

The Project site is located along the south side of West Cleveland Avenue, a designated arterial, which will provide primary access from the Project site to the larger City transportation network. The Project will be served by an internal network of local streets. Sidewalks and bicycle facilities are constructed adjacent to the Project site.

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 Project would not conflict with any program 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. Therefore, there would be a *less than significant impact*.

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

Less than significant impact. The Project is located in Transportation Analysis Zone (TAZ) 2544 of the California Statewide Travel Demand Model (CSTDM)²⁰, which has an average home-based vehicle miles traveled (VMT) per capita of 10.41. The countywide average, composed of TAZs 2543 through 2567 and

²⁰ CalTrans. SB 743 VMT Impact Assessment. Website: <https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling/sb-743-vmt-impact-assessment>. Accessed November 2020.

2572 through 2578, is 13.81 VMT per capita. The Office of Planning and Research (OPR) has stated that a development project whose VMT per capita is less than 15 percent of the regional or citywide average should have a less than significant impact²¹. The TAZ in which the Project is located is approximately 24.6 percent below the countywide average and the Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, there would be a *less than significant impact*.

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. Site access would be provided by multiple access points: two onto West Cleveland Avenue, one onto Piazza Drive, one onto San Angelo, one onto San Pietro, and one onto Fairway Avenue. The Engineering Department has conditioned the Project to ensure that curve radii, street widths and transitions conform to safety standards, and to ensure that street signalization appropriately addresses traffic generated by the Project and traffic patterns in the area. Compliance will be confirmed during review and approval of the required improvement plans by the City Engineer. Therefore, the Project would result in a *less than significant impact*.

d) Would the project result in inadequate emergency access?

Less than significant impact. Construction activities will cause impediments such as truck deliveries, hauling materials, and construction crews. The City Engineer imposed a condition of approval that the Project developer provide a construction route and traffic control plan for review and approval by the City Engineer. The Project has been reviewed by the Engineering Department and the Fire Department to ensure that the Project once constructed would not result in inadequate emergency access. Therefore, the Project would result in a *less than significant impact*.

²¹ Governor's Office of Planning and Research. Technical Advisory on Evaluating Transportation Impacts in CEQA. Website: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed November 2020.

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.18.1 Environmental Setting

A previous sacred lands search completed for General Plan Environmental Impact Report (EIR) did not identify any sensitive Native American cultural resources either within or near the Project site. California Native American tribes traditionally and culturally affiliated with the Project area did not request consultation pursuant to Public Resources Code Section 21080.3.1.

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*

No impact. The Project would not 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 the Project is not listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). As described above, no known tribal cultural resources have been identified (as defined in Section 21074) within the Project area. Therefore, the Project would **not impact** the significance of a tribal cultural resource that is either listed in, or eligible for listing in, the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

- 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. The Project site is not a resource determined by the lead agency (City of Madera), 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. The Project site is not listed as a historical resource in the California Register of Historical Sources. As described above, no known tribal cultural resources have been identified (as defined in Section 21074) within the Project area, and no substantial information has been provided to the City to indicate otherwise. However, it is possible that unknown buried archaeological materials could be found during ground disturbing activities, including unrecorded Native American materials. If such resources were discovered, the impact to cultural resources could be significant. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition would reduce the impact to tribal cultural resources to **less than significant**.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.19.1 Environmental Setting

The Project site is a vacant property planned for low density residential uses in the General Plan. The Project site's land uses were analyzed in several utility planning documents, including the following:

- 2014 Water System Master Plan
- 2014 Sanitary Sewer System Master Plan
- 2015 Urban Water Management Plan

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?
- 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. The City implements a City-wide program for completion of incremental expansions to facilities for planned water supply, sewer treatment, and stormwater drainage. The City Engineer has conditioned the Project to require the installation of an 8-inch water main and extension of water mains to provide service to the subdivision and payment of impact fees to offset the Project's incremental water usage.

The City has sufficient water supplies available to serve the Project and its existing commitments during normal, dry, and multiple dry years. The Project must comply with the requirements of the Engineering Department for the construction of water, wastewater, and storm water drainage infrastructure.

PG&E, the natural gas and electric service provider for the area, incrementally expands and updates its service system as needed to serve its users. Accordingly, telecommunications providers in the area incrementally expand and update their service systems in response to usage and demand. The developer will be responsible for planning and installing wastewater collection and water delivery systems, as well as electrical and telecommunications service infrastructure. In addition, the developer be responsible for the payment of development impact fees to off-set potential impacts to these facilities resulting in *less than significant impacts*.

- 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. The Project will be served by the City of Madera Wastewater Treatment Plant (WWTP). The Madera WWTP has a design capacity of 10.1 MGD and it can accommodate a design peak dry weather flow of up to 15.1 MGD. The 2014 Sanitary Sewer System assumed a 2020 population of 86,633 with an average day flow of 10.4 MGD. The served population with the Project will be 66,206, and therefore approximately 24 percent below the assumed 2020 average flow. The WWTP has adequate capacity to serve the Project in addition to its existing commitments, therefore the Project will have a *less than significant impact*.

- 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. The Fairmead Solid Waste Disposal Site located at 21739 Road 19 serves the City of Madera. The landfill has a maximum permitted throughput of 1,100 tons/day. According to

CalRecycle²², a typical Madera resident produces approximately 3.9 pounds of solid waste each day, or approximately 15.1 pounds per household per day. The 194 residences proposed by the Project would generate approximately 1.46 tons per day, representing less than 0.1 percent of the landfill's permitted daily maximum throughput. The landfill has a maximum permitted capacity of 9,400,000 cubic yards, with last reported remaining capacity of 5,552,894 cubic yards. The landfill has an estimated closure date for December 2028, however throughput has typically been less than maximum capacity. The landfill currently has sufficient capacity to serve the Project. The Project is not anticipated to generate solid waste in excess of State or local standards. Therefore, the Project would have a *less than significant impact*.

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

Less than significant impact. The Project would be required to comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, the impact would *less than significant*.

²² CalRecycle. Jurisdiction Diversion/Disposal Rate Summary. Website:
<https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006>. Accessed November 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.20.1 Environmental Setting

The Project site is not located in or near State Responsibility Areas or include lands classified as Very High Fire Hazard Severity Zones. The Project will be developed consistent with all regulations of the California Fire Code.

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?

No impact. The Project is located in an area of low fire risk and is not located in or near a State Responsibility Area nor near land classified by either CalFire²³ or the City of Madera as a Very High Fire Hazard Severity Zone²⁴. The nearest State Responsibility Area is approximately 21 miles to the northeast of the Project site. Additionally, the site is approximately 29 miles from the nearest Very High Fire Hazard Severity Zone classification. As the Project is not subject to wildfire, it would have no impact on adopted emergency response plans or emergency evacuation plans relative to the risk of wildfire. The Project area does not generally experience strong prevailing winds and experiences less than 2 percent slope. As the Project is relatively flat, and not located in or near a State Responsibility Area nor land classified by either Cal Fire or the City as a Very High Fire Hazard Severity Zone, it is not subject to the risk of downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. The Fire Department reviewed the Project and determined the installation or maintenance of the Project or any associated infrastructure would not exacerbate fire risks or result in an impact to the environment. Therefore, there would be *no impact*.

²³ CAL FIRE. Fire Hazard Severity Zones in SRA, Madera County. Website: https://osfm.fire.ca.gov/media/6700/fhszs_map20.pdf. Accessed November 2020.

²⁴ CAL FIRE. Draft Fire Hazard Severity Zones in LRA, Madera County. Website: https://osfm.fire.ca.gov/media/6703/fhszl06_1_map20.pdf. Accessed November 2020.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.21.1 Environmental Setting

Based upon staff analysis and comments from experts, it has been determined that the proposed Project could generate some limited adverse impacts in the areas of Aesthetics, Air Quality, Biologic Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, and Utilities and Service Systems.

The potential impacts identified in this Initial Study are considered to be less than significant since they will cease upon completion of construction or do not exceed a threshold of significance. Therefore, a Negative Declaration is the appropriate level of documentation for this Project.

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. The analysis conducted in this Initial Study/Negative Declaration results in a determination that the Project will have a **less than significant** effect on the environment. Accordingly, the Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

- 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 cumulative effects of a project must be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project will include the construction of a new residential subdivision.

The Project would result in direct but planned population growth. The Project site was anticipated for urbanization with the development of the City’s General Plan. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to **less than significant** through the implementation of basic regulatory requirements incorporated into Project design.

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

Less than significant impact. The Project would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. Impacts are considered to be **less than significant**.

Appendix A: CalEEMod Output File

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

TSM 2020-05 Villa de Roma Subdivision
Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	194.00	Dwelling Unit	50.18	349,200.00	751

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2026 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 14 intersections across 50.18 acres, equivalent to 178.55 intersections per mile. Distance to downtown is 2.81 miles. Distance to a transit stop is 0.83 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 294.5492. Kilowatt-hours output using PVwatts.

Sequestration -

Woodstoves - Woodstoves not allowed per SJVAPCD Rule 4901

Waste Mitigation - Assumes 75% solid waste diversion requirement pursuant to AB 341 is implemented.

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.56	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	8.0000e-004
tblFleetMix	LHD2	4.4330e-003	9.0000e-004
tblFleetMix	MCY	6.5350e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	7.0900e-004	2.3000e-003
tblFleetMix	MHD	0.01	7.5000e-003
tblFleetMix	OBUS	2.6400e-003	0.00
tblFleetMix	SBUS	1.1680e-003	2.0000e-004
tblFleetMix	UBUS	1.5800e-003	4.4000e-003
tblLandUse	LotAcreage	62.99	50.18
tblLandUse	Population	555.00	751.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	50.18	0.00
tblWoodstoves	NumberNoncatalytic	50.18	0.00

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4065	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6035	562.6035	0.1439	0.0000	566.2005
2022	0.2661	2.3320	2.4364	4.9600e-003	0.0905	0.1065	0.1970	0.0245	0.1002	0.1247	0.0000	436.2814	436.2814	0.0796	0.0000	438.2723
2023	0.2434	2.1044	2.3884	4.9100e-003	0.0905	0.0917	0.1823	0.0245	0.0863	0.1108	0.0000	432.3043	432.3043	0.0773	0.0000	434.2367
2024	0.2296	1.9937	2.3780	4.9300e-003	0.0912	0.0811	0.1723	0.0247	0.0763	0.1010	0.0000	433.9798	433.9798	0.0775	0.0000	435.9176
2025	0.3125	1.5863	2.1534	4.2200e-003	0.0666	0.0632	0.1298	0.0180	0.0591	0.0771	0.0000	371.4116	371.4116	0.0766	0.0000	373.3256
2026	0.9684	0.0385	0.0690	1.3000e-004	3.6800e-003	1.7300e-003	5.4100e-003	9.8000e-004	1.7200e-003	2.7000e-003	0.0000	11.2610	11.2610	5.2000e-004	0.0000	11.2740
Maximum	0.9684	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6035	562.6035	0.1439	0.0000	566.2005

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.1 Overall Construction**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4065	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6030	562.6030	0.1439	0.0000	566.2000
2022	0.2661	2.3320	2.4364	4.9600e-003	0.0905	0.1065	0.1970	0.0245	0.1002	0.1247	0.0000	436.2810	436.2810	0.0796	0.0000	438.2719
2023	0.2434	2.1044	2.3884	4.9100e-003	0.0905	0.0917	0.1823	0.0245	0.0863	0.1108	0.0000	432.3040	432.3040	0.0773	0.0000	434.2364
2024	0.2296	1.9937	2.3780	4.9300e-003	0.0912	0.0811	0.1723	0.0247	0.0763	0.1010	0.0000	433.9794	433.9794	0.0775	0.0000	435.9173
2025	0.3125	1.5863	2.1534	4.2200e-003	0.0666	0.0632	0.1298	0.0180	0.0591	0.0771	0.0000	371.4112	371.4112	0.0766	0.0000	373.3253
2026	0.9684	0.0385	0.0690	1.3000e-004	3.6800e-003	1.7300e-003	5.4100e-003	9.8000e-004	1.7200e-003	2.7000e-003	0.0000	11.2610	11.2610	5.2000e-004	0.0000	11.2740
Maximum	0.9684	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6030	562.6030	0.1439	0.0000	566.2000

	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
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	1-1-2021	3-31-2021	1.6309	1.6309
2	4-1-2021	6-30-2021	1.3734	1.3734
3	7-1-2021	9-30-2021	0.7282	0.7282
4	10-1-2021	12-31-2021	0.7294	0.7294
5	1-1-2022	3-31-2022	0.6433	0.6433

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

6	4-1-2022	6-30-2022	0.6495	0.6495
7	7-1-2022	9-30-2022	0.6566	0.6566
8	10-1-2022	12-31-2022	0.6576	0.6576
9	1-1-2023	3-31-2023	0.5814	0.5814
10	4-1-2023	6-30-2023	0.5872	0.5872
11	7-1-2023	9-30-2023	0.5937	0.5937
12	10-1-2023	12-31-2023	0.5943	0.5943
13	1-1-2024	3-31-2024	0.5524	0.5524
14	4-1-2024	6-30-2024	0.5518	0.5518
15	7-1-2024	9-30-2024	0.5579	0.5579
16	10-1-2024	12-31-2024	0.5584	0.5584
17	1-1-2025	3-31-2025	0.5101	0.5101
18	4-1-2025	6-30-2025	0.5153	0.5153
19	7-1-2025	9-30-2025	0.4626	0.4626
20	10-1-2025	12-31-2025	0.4119	0.4119
21	1-1-2026	3-31-2026	0.9810	0.9810
22	4-1-2026	6-30-2026	0.0218	0.0218
		Highest	1.6309	1.6309

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510
Energy	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	494.2369	494.2369	0.0275	9.5900e-003	497.7827
Mobile	0.4652	1.4271	5.5846	0.0193	1.9296	0.0164	1.9460	0.5159	0.0152	0.5311	0.0000	1,773.0369	1,773.0369	0.0863	0.0000	1,775.1955
Waste						0.0000	0.0000		0.0000	0.0000	54.8806	0.0000	54.8806	3.2434	0.0000	135.9645
Water						0.0000	0.0000		0.0000	0.0000	4.0101	12.6654	16.6755	0.4131	9.9900e-003	29.9801
Total	2.0173	1.7499	7.1540	0.0213	1.9296	0.0492	1.9788	0.5159	0.0480	0.5639	58.8907	2,366.3345	2,425.2252	3.7742	0.0211	2,525.8737

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510
Energy	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	415.0898	415.0898	0.0209	7.9900e-003	417.9940
Mobile	0.4557	1.3774	5.2772	0.0181	1.7964	0.0154	1.8119	0.4803	0.0143	0.4946	0.0000	1,658.4689	1,658.4689	0.0821	0.0000	1,660.5215
Waste						0.0000	0.0000		0.0000	0.0000	13.7202	0.0000	13.7202	0.8108	0.0000	33.9911
Water						0.0000	0.0000		0.0000	0.0000	4.0101	12.6654	16.6755	0.4131	9.9900e-003	29.9801
Total	2.0062	1.6863	6.8407	0.0200	1.7964	0.0470	1.8435	0.4803	0.0459	0.5262	17.7302	2,172.6194	2,190.3496	1.3309	0.0195	2,229.4377

	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
Percent Reduction	0.55	3.64	4.38	6.24	6.90	4.37	6.84	6.90	4.34	6.68	69.89	8.19	9.68	64.74	7.58	11.74

3.0 Construction Detail**Construction Phase**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	6/3/2021	5	110	
2	Building Construction	Building Construction	6/4/2021	9/4/2025	5	1110	
3	Paving	Paving	9/5/2025	12/18/2025	5	75	
4	Architectural Coating	Architectural Coating	12/19/2025	4/2/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 707,130; Residential Outdoor: 235,710; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	70.00	21.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458
Total	0.2305	2.5520	1.6983	3.4100e-003	0.4770	0.1092	0.5862	0.1978	0.1005	0.2983	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268
Total	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2021**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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455
Total	0.2305	2.5520	1.6983	3.4100e-003	0.4770	0.1092	0.5862	0.1978	0.1005	0.2983	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268
Total	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410

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	5.7500e-003	0.1721	0.0407	4.5000e-004	0.0105	5.2000e-004	0.0110	3.0300e-003	5.0000e-004	3.5300e-003	0.0000	42.5974	42.5974	3.4100e-003	0.0000	42.6828
Worker	0.0221	0.0141	0.1566	4.2000e-004	0.0421	3.3000e-004	0.0424	0.0112	3.0000e-004	0.0115	0.0000	37.5765	37.5765	1.1100e-003	0.0000	37.6042
Total	0.0278	0.1861	0.1973	8.7000e-004	0.0526	8.5000e-004	0.0534	0.0142	8.0000e-004	0.0150	0.0000	80.1740	80.1740	4.5200e-003	0.0000	80.2870

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2021**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	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407

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	5.7500e-003	0.1721	0.0407	4.5000e-004	0.0105	5.2000e-004	0.0110	3.0300e-003	5.0000e-004	3.5300e-003	0.0000	42.5974	42.5974	3.4100e-003	0.0000	42.6828
Worker	0.0221	0.0141	0.1566	4.2000e-004	0.0421	3.3000e-004	0.0424	0.0112	3.0000e-004	0.0115	0.0000	37.5765	37.5765	1.1100e-003	0.0000	37.6042
Total	0.0278	0.1861	0.1973	8.7000e-004	0.0526	8.5000e-004	0.0534	0.0142	8.0000e-004	0.0150	0.0000	80.1740	80.1740	4.5200e-003	0.0000	80.2870

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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	9.1000e-003	0.2804	0.0631	7.7000e-004	0.0181	7.8000e-004	0.0188	5.2200e-003	7.5000e-004	5.9700e-003	0.0000	72.6755	72.6755	5.7600e-003	0.0000	72.8196
Worker	0.0352	0.0216	0.2460	6.9000e-004	0.0725	5.5000e-004	0.0730	0.0193	5.0000e-004	0.0198	0.0000	62.3631	62.3631	1.7000e-003	0.0000	62.4057
Total	0.0443	0.3020	0.3091	1.4600e-003	0.0905	1.3300e-003	0.0919	0.0245	1.2500e-003	0.0258	0.0000	135.0386	135.0386	7.4600e-003	0.0000	135.2252

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2022**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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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	9.1000e-003	0.2804	0.0631	7.7000e-004	0.0181	7.8000e-004	0.0188	5.2200e-003	7.5000e-004	5.9700e-003	0.0000	72.6755	72.6755	5.7600e-003	0.0000	72.8196
Worker	0.0352	0.0216	0.2460	6.9000e-004	0.0725	5.5000e-004	0.0730	0.0193	5.0000e-004	0.0198	0.0000	62.3631	62.3631	1.7000e-003	0.0000	62.4057
Total	0.0443	0.3020	0.3091	1.4600e-003	0.0905	1.3300e-003	0.0919	0.0245	1.2500e-003	0.0258	0.0000	135.0386	135.0386	7.4600e-003	0.0000	135.2252

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383

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	6.3800e-003	0.2151	0.0521	7.5000e-004	0.0181	2.2000e-004	0.0183	5.2200e-003	2.1000e-004	5.4200e-003	0.0000	70.9508	70.9508	4.0900e-003	0.0000	71.0532
Worker	0.0326	0.0193	0.2246	6.6000e-004	0.0725	5.3000e-004	0.0730	0.0193	4.9000e-004	0.0198	0.0000	60.0073	60.0073	1.5200e-003	0.0000	60.0453
Total	0.0390	0.2344	0.2767	1.4100e-003	0.0905	7.5000e-004	0.0913	0.0245	7.0000e-004	0.0252	0.0000	130.9582	130.9582	5.6100e-003	0.0000	131.0984

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2023**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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380

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	6.3800e-003	0.2151	0.0521	7.5000e-004	0.0181	2.2000e-004	0.0183	5.2200e-003	2.1000e-004	5.4200e-003	0.0000	70.9508	70.9508	4.0900e-003	0.0000	71.0532
Worker	0.0326	0.0193	0.2246	6.6000e-004	0.0725	5.3000e-004	0.0730	0.0193	4.9000e-004	0.0198	0.0000	60.0073	60.0073	1.5200e-003	0.0000	60.0453
Total	0.0390	0.2344	0.2767	1.4100e-003	0.0905	7.5000e-004	0.0913	0.0245	7.0000e-004	0.0252	0.0000	130.9582	130.9582	5.6100e-003	0.0000	131.0984

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

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	6.1200e-003	0.2149	0.0478	7.5000e-004	0.0182	2.2000e-004	0.0184	5.2600e-003	2.1000e-004	5.4600e-003	0.0000	70.9561	70.9561	4.2700e-003	0.0000	71.0629
Worker	0.0307	0.0177	0.2123	6.6000e-004	0.0730	5.4000e-004	0.0736	0.0194	5.0000e-004	0.0199	0.0000	59.3013	59.3013	1.4200e-003	0.0000	59.3369
Total	0.0368	0.2326	0.2601	1.4100e-003	0.0912	7.6000e-004	0.0920	0.0247	7.1000e-004	0.0254	0.0000	130.2575	130.2575	5.6900e-003	0.0000	130.3997

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2024**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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

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	6.1200e-003	0.2149	0.0478	7.5000e-004	0.0182	2.2000e-004	0.0184	5.2600e-003	2.1000e-004	5.4600e-003	0.0000	70.9561	70.9561	4.2700e-003	0.0000	71.0629
Worker	0.0307	0.0177	0.2123	6.6000e-004	0.0730	5.4000e-004	0.0736	0.0194	5.0000e-004	0.0199	0.0000	59.3013	59.3013	1.4200e-003	0.0000	59.3369
Total	0.0368	0.2326	0.2601	1.4100e-003	0.0912	7.6000e-004	0.0920	0.0247	7.1000e-004	0.0254	0.0000	130.2575	130.2575	5.6900e-003	0.0000	130.3997

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 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	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2487	205.2487	0.0483	0.0000	206.4549
Total	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2487	205.2487	0.0483	0.0000	206.4549

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	3.9600e-003	0.1439	0.0296	5.0000e-004	0.0123	1.4000e-004	0.0124	3.5500e-003	1.4000e-004	3.6900e-003	0.0000	47.6028	47.6028	3.0200e-003	0.0000	47.6783
Worker	0.0194	0.0108	0.1321	4.3000e-004	0.0494	3.6000e-004	0.0497	0.0131	3.3000e-004	0.0135	0.0000	38.4560	38.4560	8.6000e-004	0.0000	38.4776
Total	0.0234	0.1547	0.1617	9.3000e-004	0.0616	5.0000e-004	0.0621	0.0167	4.7000e-004	0.0171	0.0000	86.0588	86.0588	3.8800e-003	0.0000	86.1559

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2025**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	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2485	205.2485	0.0483	0.0000	206.4547
Total	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2485	205.2485	0.0483	0.0000	206.4547

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	3.9600e-003	0.1439	0.0296	5.0000e-004	0.0123	1.4000e-004	0.0124	3.5500e-003	1.4000e-004	3.6900e-003	0.0000	47.6028	47.6028	3.0200e-003	0.0000	47.6783
Worker	0.0194	0.0108	0.1321	4.3000e-004	0.0494	3.6000e-004	0.0497	0.0131	3.3000e-004	0.0135	0.0000	38.4560	38.4560	8.6000e-004	0.0000	38.4776
Total	0.0234	0.1547	0.1617	9.3000e-004	0.0616	5.0000e-004	0.0621	0.0167	4.7000e-004	0.0171	0.0000	86.0588	86.0588	3.8800e-003	0.0000	86.1559

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 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	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0722	75.0722	0.0243	0.0000	75.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0722	75.0722	0.0243	0.0000	75.6792

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	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937
Total	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 Paving - 2025**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	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0721	75.0721	0.0243	0.0000	75.6791
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0721	75.0721	0.0243	0.0000	75.6791

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	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937
Total	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 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	0.1311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505
Total	0.1319	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505

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	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2025**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	0.1311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505
Total	0.1319	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505

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	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2026**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	0.9614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6400e-003	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372
Total	0.9671	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372

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	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368
Total	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2026**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	0.9614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6400e-003	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372
Total	0.9671	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372

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	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368
Total	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368

4.0 Operational Detail - Mobile

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4557	1.3774	5.2772	0.0181	1.7964	0.0154	1.8119	0.4803	0.0143	0.4946	0.0000	1,658.4689	1,658.4689	0.0821	0.0000	1,660.5215
Unmitigated	0.4652	1.4271	5.5846	0.0193	1.9296	0.0164	1.9460	0.5159	0.0152	0.5311	0.0000	1,773.0369	1,773.0369	0.0863	0.0000	1,775.1955

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,831.36	1,850.76	1649.00	5,175,175	4,818,088
Total	1,831.36	1,850.76	1,649.00	5,175,175	4,818,088

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	42.30	19.60	38.10	86	11	3

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.521500	0.214600	0.168100	0.056900	0.000800	0.000900	0.007500	0.020300	0.000000	0.004400	0.002500	0.000200	0.002300

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	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	160.6681	160.6681	0.0161	3.3200e-003	162.0604
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.5663	223.5663	0.0224	4.6300e-003	225.5036
NaturalGas Mitigated	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336
NaturalGas Unmitigated	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	5.07218e+006	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791
Total		0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

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	4.76768e+006	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336
Total		0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.69958e+006	223.5663	0.0224	4.6300e-003	225.5036
Total		223.5663	0.0224	4.6300e-003	225.5036

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.22142e+006	160.6681	0.0161	3.3200e-003	162.0604
Total		160.6681	0.0161	3.3200e-003	162.0604

6.0 Area Detail**6.1 Mitigation Measures Area**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510
Unmitigated	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510

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	0.1093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4900e-003	0.0726	0.0309	4.6000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	84.0422	84.0422	1.6100e-003	1.5400e-003	84.5417
Landscaping	0.0432	0.0166	1.4391	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3530	2.3530	2.2500e-003	0.0000	2.4093
Total	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	0.1093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4900e-003	0.0726	0.0309	4.6000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	84.0422	84.0422	1.6100e-003	1.5400e-003	84.5417
Landscaping	0.0432	0.0166	1.4391	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3530	2.3530	2.2500e-003	0.0000	2.4093
Total	1.5248	0.0892	1.4700	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8600e-003	1.5400e-003	86.9510

7.0 Water Detail**7.1 Mitigation Measures Water**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.6755	0.4131	9.9900e-003	29.9801
Unmitigated	16.6755	0.4131	9.9900e-003	29.9801

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	16.6755	0.4131	9.9900e-003	29.9801
Total		16.6755	0.4131	9.9900e-003	29.9801

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	16.6755	0.4131	9.9900e-003	29.9801
Total		16.6755	0.4131	9.9900e-003	29.9801

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.7202	0.8108	0.0000	33.9911
Unmitigated	54.8806	3.2434	0.0000	135.9645

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270.36	54.8806	3.2434	0.0000	135.9645
Total		54.8806	3.2434	0.0000	135.9645

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	67.59	13.7202	0.8108	0.0000	33.9911
Total		13.7202	0.8108	0.0000	33.9911

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

TSM 2020-05 Villa de Roma Subdivision
Madera County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	194.00	Dwelling Unit	50.18	349,200.00	751

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2026 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 14 intersections across 50.18 acres, equivalent to 178.55 intersections per mile. Distance to downtown is 2.81 miles. Distance to a transit stop is 0.83 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 294.5492. Kilowatt-hours output using PVwatts.

Sequestration -

Woodstoves - Woodstoves not allowed per SJVAPCD Rule 4901

Waste Mitigation - Assumes 75% solid waste diversion requirement pursuant to AB 341 is implemented.

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.56	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	8.0000e-004
tblFleetMix	LHD2	4.4330e-003	9.0000e-004
tblFleetMix	MCY	6.5350e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	7.0900e-004	2.3000e-003
tblFleetMix	MHD	0.01	7.5000e-003
tblFleetMix	OBUS	2.6400e-003	0.00
tblFleetMix	SBUS	1.1680e-003	2.0000e-004
tblFleetMix	UBUS	1.5800e-003	4.4000e-003
tblLandUse	LotAcreage	62.99	50.18
tblLandUse	Population	555.00	751.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	50.18	0.00
tblWoodstoves	NumberNoncatalytic	50.18	0.00

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****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	lb/day										lb/day					
2021	4.2796	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.229 6	6,158.229 6	1.9473	0.0000	6,206.912 1
2022	2.0651	17.9492	18.7564	0.0378	0.7174	0.8194	1.5368	0.1935	0.7709	0.9645	0.0000	3,669.002 6	3,669.002 6	0.6784	0.0000	3,685.962 3
2023	1.8893	16.1979	18.3744	0.0375	0.7174	0.7055	1.4229	0.1935	0.6638	0.8573	0.0000	3,636.317 6	3,636.317 6	0.6576	0.0000	3,652.756 3
2024	1.7686	15.2271	18.1500	0.0374	0.7174	0.6191	1.3365	0.1935	0.5823	0.7758	0.0000	3,622.981 2	3,622.981 2	0.6545	0.0000	3,639.343 1
2025	29.3511	14.2238	17.9081	0.0372	0.7174	0.5333	1.2507	0.1935	0.5016	0.6951	0.0000	3,600.490 8	3,600.490 8	0.7159	0.0000	3,616.783 6
2026	29.3486	1.1702	2.0846	3.8900e-003	0.1150	0.0523	0.1673	0.0305	0.0523	0.0828	0.0000	372.7953	372.7953	0.0173	0.0000	373.2283
Maximum	29.3511	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.229 6	6,158.229 6	1.9473	0.0000	6,206.912 1

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	4.2796	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121
2022	2.0651	17.9492	18.7564	0.0378	0.7174	0.8194	1.5368	0.1935	0.7709	0.9645	0.0000	3,669.0026	3,669.0026	0.6784	0.0000	3,685.9623
2023	1.8893	16.1979	18.3744	0.0375	0.7174	0.7055	1.4229	0.1935	0.6638	0.8573	0.0000	3,636.3176	3,636.3176	0.6576	0.0000	3,652.7563
2024	1.7686	15.2271	18.1500	0.0374	0.7174	0.6191	1.3365	0.1935	0.5823	0.7758	0.0000	3,622.9812	3,622.9812	0.6545	0.0000	3,639.3431
2025	29.3511	14.2238	17.9081	0.0372	0.7174	0.5333	1.2507	0.1935	0.5016	0.6951	0.0000	3,600.4908	3,600.4908	0.7159	0.0000	3,616.7836
2026	29.3486	1.1702	2.0846	3.8900e-003	0.1150	0.0523	0.1673	0.0305	0.0523	0.0828	0.0000	372.7953	372.7953	0.0173	0.0000	373.2283
Maximum	29.3511	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121

[illegible]

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

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	lb/day										lb/day					
Area	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Energy	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828
Mobile	2.3641	8.2601	31.4577	0.1052	11.1884	0.0927	11.2810	2.9840	0.0858	3.0698		10,655.1236	10,655.1236	0.5423		10,668.6801
Total	11.2727	11.4949	48.7459	0.1255	11.1884	0.4280	11.6164	2.9840	0.4212	3.4052	0.0000	14,578.3397	14,578.3397	0.6445	0.0714	14,615.7286

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	lb/day										lb/day					
Area	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Energy	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
Mobile	2.3117	7.9640	29.8251	0.0984	10.4164	0.0870	10.5033	2.7781	0.0805	2.8586		9,965.5485	9,965.5485	0.5166		9,978.4630
Total	11.2113	11.1220	47.0806	0.1182	10.4164	0.4161	10.8325	2.7781	0.4097	3.1878	0.0000	13,790.6199	13,790.6199	0.6169	0.0696	13,826.7835

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

	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
Percent Reduction	0.54	3.24	3.42	5.82	6.90	2.78	6.75	6.90	2.73	6.38	0.00	5.40	5.40	4.28	2.52	5.40

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	6/3/2021	5	110	
2	Building Construction	Building Construction	6/4/2021	9/4/2025	5	1110	
3	Paving	Paving	9/5/2025	12/18/2025	5	75	
4	Architectural Coating	Architectural Coating	12/19/2025	4/2/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 707,130; Residential Outdoor: 235,710; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	70.00	21.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.2 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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	lb/day										lb/day					
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
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
Worker	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987
Total	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.2 Grading - 2021**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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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	lb/day										lb/day					
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
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
Worker	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987
Total	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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	lb/day										lb/day					
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
Vendor	0.0788	2.2736	0.5875	5.8400e-003	0.1424	7.0900e-003	0.1495	0.0410	6.7800e-003	0.0478		610.2970	610.2970	0.0534		611.6308
Worker	0.3096	0.2051	2.0454	5.3200e-003	0.5750	4.3500e-003	0.5794	0.1525	4.0100e-003	0.1565		529.1517	529.1517	0.0158		529.5453
Total	0.3884	2.4787	2.6328	0.0112	0.7174	0.0114	0.7289	0.1935	0.0108	0.2043		1,139.4487	1,139.4487	0.0691		1,141.1761

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2021**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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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	lb/day										lb/day					
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
Vendor	0.0788	2.2736	0.5875	5.8400e-003	0.1424	7.0900e-003	0.1495	0.0410	6.7800e-003	0.0478		610.2970	610.2970	0.0534		611.6308
Worker	0.3096	0.2051	2.0454	5.3200e-003	0.5750	4.3500e-003	0.5794	0.1525	4.0100e-003	0.1565		529.1517	529.1517	0.0158		529.5453
Total	0.3884	2.4787	2.6328	0.0112	0.7174	0.0114	0.7289	0.1935	0.0108	0.2043		1,139.4487	1,139.4487	0.0691		1,141.1761

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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	lb/day										lb/day					
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
Vendor	0.0725	2.1504	0.5303	5.7800e-003	0.1424	6.1600e-003	0.1485	0.0410	5.8900e-003	0.0469		604.6345	604.6345	0.0524		605.9448
Worker	0.2864	0.1831	1.8627	5.1200e-003	0.5750	4.2100e-003	0.5793	0.1525	3.8800e-003	0.1564		510.0345	510.0345	0.0140		510.3853
Total	0.3589	2.3335	2.3930	0.0109	0.7174	0.0104	0.7278	0.1935	9.7700e-003	0.2033		1,114.6691	1,114.6691	0.0664		1,116.3301

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2022**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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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	lb/day										lb/day					
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
Vendor	0.0725	2.1504	0.5303	5.7800e-003	0.1424	6.1600e-003	0.1485	0.0410	5.8900e-003	0.0469		604.6345	604.6345	0.0524		605.9448
Worker	0.2864	0.1831	1.8627	5.1200e-003	0.5750	4.2100e-003	0.5793	0.1525	3.8800e-003	0.1564		510.0345	510.0345	0.0140		510.3853
Total	0.3589	2.3335	2.3930	0.0109	0.7174	0.0104	0.7278	0.1935	9.7700e-003	0.2033		1,114.6691	1,114.6691	0.0664		1,116.3301

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	lb/day										lb/day					
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
Vendor	0.0509	1.6492	0.4332	5.6500e-003	0.1424	1.6900e-003	0.1441	0.0410	1.6200e-003	0.0426		590.3336	590.3336	0.0372		591.2639
Worker	0.2656	0.1638	1.6972	4.9300e-003	0.5750	4.0900e-003	0.5791	0.1525	3.7700e-003	0.1563		490.7741	490.7741	0.0125		491.0863
Total	0.3166	1.8130	2.1304	0.0106	0.7174	5.7800e-003	0.7232	0.1935	5.3900e-003	0.1989		1,081.1077	1,081.1077	0.0497		1,082.3502

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2023**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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	lb/day										lb/day					
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
Vendor	0.0509	1.6492	0.4332	5.6500e-003	0.1424	1.6900e-003	0.1441	0.0410	1.6200e-003	0.0426		590.3336	590.3336	0.0372		591.2639
Worker	0.2656	0.1638	1.6972	4.9300e-003	0.5750	4.0900e-003	0.5791	0.1525	3.7700e-003	0.1563		490.7741	490.7741	0.0125		491.0863
Total	0.3166	1.8130	2.1304	0.0106	0.7174	5.7800e-003	0.7232	0.1935	5.3900e-003	0.1989		1,081.1077	1,081.1077	0.0497		1,082.3502

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	lb/day										lb/day					
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
Vendor	0.0485	1.6349	0.3955	5.6000e-003	0.1424	1.6700e-003	0.1441	0.0410	1.6000e-003	0.0426		585.9852	585.9852	0.0386		586.9488
Worker	0.2485	0.1484	1.5877	4.8300e-003	0.5750	4.1400e-003	0.5792	0.1525	3.8100e-003	0.1563		481.2971	481.2971	0.0116		481.5866
Total	0.2970	1.7833	1.9832	0.0104	0.7174	5.8100e-003	0.7232	0.1935	5.4100e-003	0.1989		1,067.2823	1,067.2823	0.0501		1,068.5355

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2024**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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	lb/day										lb/day					
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
Vendor	0.0485	1.6349	0.3955	5.6000e-003	0.1424	1.6700e-003	0.1441	0.0410	1.6000e-003	0.0426		585.9852	585.9852	0.0386		586.9488
Worker	0.2485	0.1484	1.5877	4.8300e-003	0.5750	4.1400e-003	0.5792	0.1525	3.8100e-003	0.1563		481.2971	481.2971	0.0116		481.5866
Total	0.2970	1.7833	1.9832	0.0104	0.7174	5.8100e-003	0.7232	0.1935	5.4100e-003	0.1989		1,067.2823	1,067.2823	0.0501		1,068.5355

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	lb/day										lb/day					
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
Vendor	0.0464	1.6201	0.3634	5.5700e-003	0.1424	1.6400e-003	0.1440	0.0410	1.5700e-003	0.0426		582.0096	582.0096	0.0404		583.0184
Worker	0.2326	0.1340	1.4600	4.6300e-003	0.5750	4.0500e-003	0.5791	0.1525	3.7300e-003	0.1563		462.0068	462.0068	0.0104		462.2671
Total	0.2789	1.7541	1.8234	0.0102	0.7174	5.6900e-003	0.7231	0.1935	5.3000e-003	0.1988		1,044.016 4	1,044.016 4	0.0508		1,045.285 5

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.3 Building Construction - 2025**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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	lb/day										lb/day					
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
Vendor	0.0464	1.6201	0.3634	5.5700e-003	0.1424	1.6400e-003	0.1440	0.0410	1.5700e-003	0.0426		582.0096	582.0096	0.0404		583.0184
Worker	0.2326	0.1340	1.4600	4.6300e-003	0.5750	4.0500e-003	0.5791	0.1525	3.7300e-003	0.1563		462.0068	462.0068	0.0104		462.2671
Total	0.2789	1.7541	1.8234	0.0102	0.7174	5.6900e-003	0.7231	0.1935	5.3000e-003	0.1988		1,044.016 4	1,044.016 4	0.0508		1,045.285 5

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.4 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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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	lb/day										lb/day					
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
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
Worker	0.0498	0.0287	0.3129	9.9000e-004	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		99.0015	99.0015	2.2300e-003		99.0572
Total	0.0498	0.0287	0.3129	9.9000e-004	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		99.0015	99.0015	2.2300e-003		99.0572

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.4 Paving - 2025**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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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	lb/day										lb/day					
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
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
Worker	0.0498	0.0287	0.3129	9.9000e-004	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		99.0015	99.0015	2.2300e-003		99.0572
Total	0.0498	0.0287	0.3129	9.9000e-004	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		99.0015	99.0015	2.2300e-003		99.0572

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.5 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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0465	0.0268	0.2920	9.3000e-004	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		92.4014	92.4014	2.0800e-003		92.4534
Total	0.0465	0.0268	0.2920	9.3000e-004	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		92.4014	92.4014	2.0800e-003		92.4534

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.5 Architectural Coating - 2025**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0465	0.0268	0.2920	9.3000e-004	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		92.4014	92.4014	2.0800e-003		92.4534
Total	0.0465	0.0268	0.2920	9.3000e-004	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		92.4014	92.4014	2.0800e-003		92.4534

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.5 Architectural Coating - 2026**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0440	0.0247	0.2754	9.2000e-004	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		91.3472	91.3472	1.9700e-003		91.3964
Total	0.0440	0.0247	0.2754	9.2000e-004	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		91.3472	91.3472	1.9700e-003		91.3964

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

3.5 Architectural Coating - 2026**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0440	0.0247	0.2754	9.2000e-004	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		91.3472	91.3472	1.9700e-003		91.3964
Total	0.0440	0.0247	0.2754	9.2000e-004	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		91.3472	91.3472	1.9700e-003		91.3964

4.0 Operational Detail - Mobile

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3117	7.9640	29.8251	0.0984	10.4164	0.0870	10.5033	2.7781	0.0805	2.8586		9,965.5485	9,965.5485	0.5166		9,978.4630
Unmitigated	2.3641	8.2601	31.4577	0.1052	11.1884	0.0927	11.2810	2.9840	0.0858	3.0698		10,655.1236	10,655.1236	0.5423		10,668.6801

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,831.36	1,850.76	1649.00	5,175,175	4,818,088
Total	1,831.36	1,850.76	1,649.00	5,175,175	4,818,088

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	42.30	19.60	38.10	86	11	3

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.521500	0.214600	0.168100	0.056900	0.000800	0.000900	0.007500	0.020300	0.000000	0.004400	0.002500	0.000200	0.002300

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	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	lb/day										lb/day					
NaturalGas Mitigated	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
NaturalGas Unmitigated	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

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	lb/day										lb/day					
Single Family Housing	13896.4	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828
Total		0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828

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	lb/day										lb/day					
Single Family Housing	13.0621	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
Total		0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548

6.0 Area Detail**6.1 Mitigation Measures Area**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

	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	lb/day										lb/day					
Mitigated	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Unmitigated	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658

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	lb/day										lb/day					
Architectural Coating	0.5986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.4729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2071	1.7700	0.7532	0.0113		0.1431	0.1431		0.1431	0.1431	0.0000	2,259.5294	2,259.5294	0.0433	0.0414	2,272.9567
Landscaping	0.4801	0.1842	15.9901	8.5000e-004		0.0887	0.0887		0.0887	0.0887		28.8192	28.8192	0.0276		29.5091
Total	8.7587	1.9542	16.7433	0.0122		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

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	lb/day										lb/day					
Architectural Coating	0.5986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.4729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2071	1.7700	0.7532	0.0113		0.1431	0.1431		0.1431	0.1431	0.0000	2,259.529 4	2,259.529 4	0.0433	0.0414	2,272.956 7
Landscaping	0.4801	0.1842	15.9901	8.5000e-004		0.0887	0.0887		0.0887	0.0887		28.8192	28.8192	0.0276		29.5091
Total	8.7587	1.9542	16.7433	0.0122		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.348 6	2,288.348 6	0.0709	0.0414	2,302.465 8

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Winter

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

TSM 2020-05 Villa de Roma Subdivision

Madera County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	194.00	Dwelling Unit	50.18	349,200.00	751

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2026 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 14 intersections across 50.18 acres, equivalent to 178.55 intersections per mile. Distance to downtown is 2.81 miles. Distance to a transit stop is 0.83 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 294.5492. Kilowatt-hours output using PVwatts.

Sequestration -

Woodstoves - Woodstoves not allowed per SJVAPCD Rule 4901

Waste Mitigation - Assumes 75% solid waste diversion requirement pursuant to AB 341 is implemented.

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.56	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	8.0000e-004
tblFleetMix	LHD2	4.4330e-003	9.0000e-004
tblFleetMix	MCY	6.5350e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	7.0900e-004	2.3000e-003
tblFleetMix	MHD	0.01	7.5000e-003
tblFleetMix	OBUS	2.6400e-003	0.00
tblFleetMix	SBUS	1.1680e-003	2.0000e-004
tblFleetMix	UBUS	1.5800e-003	4.4000e-003
tblLandUse	LotAcreage	62.99	50.18
tblLandUse	Population	555.00	751.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	50.18	0.00
tblWoodstoves	NumberNoncatalytic	50.18	0.00

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****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	lb/day										lb/day					
2021	4.2859	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1
2022	2.0817	17.9025	19.0054	0.0387	0.7174	0.8191	1.5366	0.1935	0.7707	0.9642	0.0000	3,756.999 5	3,756.999 5	0.6742	0.0000	3,773.855 4
2023	1.9051	16.1633	18.6237	0.0384	0.7174	0.7055	1.4229	0.1935	0.6638	0.8573	0.0000	3,721.167 3	3,721.167 3	0.6550	0.0000	3,737.541 9
2024	1.7829	15.1959	18.3937	0.0382	0.7174	0.6191	1.3365	0.1935	0.5823	0.7758	0.0000	3,706.226 0	3,706.226 0	0.6516	0.0000	3,722.517 1
2025	29.3542	14.1958	18.1361	0.0380	0.7174	0.5332	1.2506	0.1935	0.5015	0.6951	0.0000	3,680.835 8	3,680.835 8	0.7163	0.0000	3,697.048 0
2026	29.3514	1.1663	2.1386	4.0100e-003	0.1150	0.0523	0.1673	0.0305	0.0523	0.0828	0.0000	384.9674	384.9674	0.0176	0.0000	385.4080
Maximum	29.3542	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	4.2859	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.3881	6,178.3881	1.9479	0.0000	6,227.0861
2022	2.0817	17.9025	19.0054	0.0387	0.7174	0.8191	1.5366	0.1935	0.7707	0.9642	0.0000	3,756.9995	3,756.9995	0.6742	0.0000	3,773.8554
2023	1.9051	16.1633	18.6237	0.0384	0.7174	0.7055	1.4229	0.1935	0.6638	0.8573	0.0000	3,721.1673	3,721.1673	0.6550	0.0000	3,737.5419
2024	1.7829	15.1959	18.3937	0.0382	0.7174	0.6191	1.3365	0.1935	0.5823	0.7758	0.0000	3,706.2260	3,706.2260	0.6516	0.0000	3,722.5171
2025	29.3542	14.1958	18.1361	0.0380	0.7174	0.5332	1.2506	0.1935	0.5015	0.6951	0.0000	3,680.8358	3,680.8358	0.7163	0.0000	3,697.0480
2026	29.3514	1.1663	2.1386	4.0100e-003	0.1150	0.0523	0.1673	0.0305	0.0523	0.0828	0.0000	384.9674	384.9674	0.0176	0.0000	385.4080
Maximum	29.3542	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.3881	6,178.3881	1.9479	0.0000	6,227.0861

[illegible]

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

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	lb/day										lb/day					
Area	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Energy	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828
Mobile	3.4070	7.7903	35.3986	0.1172	11.1884	0.0926	11.2809	2.9840	0.0857	3.0697		11,852.0153	11,852.0153	0.5477		11,865.7077
Total	12.3156	11.0251	52.6868	0.1375	11.1884	0.4279	11.6163	2.9840	0.4211	3.4051	0.0000	15,775.2314	15,775.2314	0.6499	0.0714	15,812.7562

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	lb/day										lb/day					
Area	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Energy	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
Mobile	3.3497	7.5285	33.3163	0.1096	10.4164	0.0869	10.5032	2.7781	0.0805	2.8585		11,084.3538	11,084.3538	0.5197		11,097.3473
Total	12.2493	10.6865	50.5718	0.1294	10.4164	0.4160	10.8324	2.7781	0.4096	3.1877	0.0000	14,909.4252	14,909.4252	0.6201	0.0696	14,945.6678

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

	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
Percent Reduction	0.54	3.07	4.01	5.88	6.90	2.78	6.75	6.90	2.73	6.38	0.00	5.49	5.49	4.59	2.52	5.48

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	6/3/2021	5	110	
2	Building Construction	Building Construction	6/4/2021	9/4/2025	5	1110	
3	Paving	Paving	9/5/2025	12/18/2025	5	75	
4	Architectural Coating	Architectural Coating	12/19/2025	4/2/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 707,130; Residential Outdoor: 235,710; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	70.00	21.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.2 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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	lb/day										lb/day					
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
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
Worker	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726
Total	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.2 Grading - 2021**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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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	lb/day										lb/day					
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
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
Worker	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726
Total	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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	lb/day										lb/day					
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
Vendor	0.0749	2.2522	0.5036	6.0300e-003	0.1424	6.8400e-003	0.1492	0.0410	6.5400e-003	0.0475		630.3574	630.3574	0.0473		631.5389
Worker	0.3317	0.1718	2.3943	6.0200e-003	0.5750	4.3500e-003	0.5794	0.1525	4.0100e-003	0.1565		599.7062	599.7062	0.0179		600.1542
Total	0.4066	2.4240	2.8979	0.0121	0.7174	0.0112	0.7286	0.1935	0.0106	0.2041		1,230.0636	1,230.0636	0.0652		1,231.6931

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2021**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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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	lb/day										lb/day					
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
Vendor	0.0749	2.2522	0.5036	6.0300e-003	0.1424	6.8400e-003	0.1492	0.0410	6.5400e-003	0.0475		630.3574	630.3574	0.0473		631.5389
Worker	0.3317	0.1718	2.3943	6.0200e-003	0.5750	4.3500e-003	0.5794	0.1525	4.0100e-003	0.1565		599.7062	599.7062	0.0179		600.1542
Total	0.4066	2.4240	2.8979	0.0121	0.7174	0.0112	0.7286	0.1935	0.0106	0.2041		1,230.0636	1,230.0636	0.0652		1,231.6931

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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	lb/day										lb/day					
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
Vendor	0.0687	2.1334	0.4522	5.9700e-003	0.1424	5.9200e-003	0.1483	0.0410	5.6600e-003	0.0467		624.6460	624.6460	0.0463		625.8034
Worker	0.3067	0.1535	2.1898	5.8000e-003	0.5750	4.2100e-003	0.5793	0.1525	3.8800e-003	0.1564		578.0199	578.0199	0.0160		578.4198
Total	0.3755	2.2869	2.6420	0.0118	0.7174	0.0101	0.7276	0.1935	9.5400e-003	0.2031		1,202.6659	1,202.6659	0.0623		1,204.2232

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2022**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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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	lb/day										lb/day					
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
Vendor	0.0687	2.1334	0.4522	5.9700e-003	0.1424	5.9200e-003	0.1483	0.0410	5.6600e-003	0.0467		624.6460	624.6460	0.0463		625.8034
Worker	0.3067	0.1535	2.1898	5.8000e-003	0.5750	4.2100e-003	0.5793	0.1525	3.8800e-003	0.1564		578.0199	578.0199	0.0160		578.4198
Total	0.3755	2.2869	2.6420	0.0118	0.7174	0.0101	0.7276	0.1935	9.5400e-003	0.2031		1,202.6659	1,202.6659	0.0623		1,204.2232

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	lb/day										lb/day					
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
Vendor	0.0482	1.6410	0.3757	5.8300e-003	0.1424	1.6600e-003	0.1440	0.0410	1.5800e-003	0.0426		609.7888	609.7888	0.0329		610.6105
Worker	0.2841	0.1374	2.0040	5.5800e-003	0.5750	4.0900e-003	0.5791	0.1525	3.7700e-003	0.1563		556.1686	556.1686	0.0143		556.5253
Total	0.3323	1.7784	2.3797	0.0114	0.7174	5.7500e-003	0.7232	0.1935	5.3500e-003	0.1989		1,165.9574	1,165.9574	0.0471		1,167.1358

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2023**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	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	lb/day										lb/day					
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
Vendor	0.0482	1.6410	0.3757	5.8300e-003	0.1424	1.6600e-003	0.1440	0.0410	1.5800e-003	0.0426		609.7888	609.7888	0.0329		610.6105
Worker	0.2841	0.1374	2.0040	5.5800e-003	0.5750	4.0900e-003	0.5791	0.1525	3.7700e-003	0.1563		556.1686	556.1686	0.0143		556.5253
Total	0.3323	1.7784	2.3797	0.0114	0.7174	5.7500e-003	0.7232	0.1935	5.3500e-003	0.1989		1,165.9574	1,165.9574	0.0471		1,167.1358

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	lb/day										lb/day					
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
Vendor	0.0459	1.6275	0.3417	5.7900e-003	0.1424	1.6400e-003	0.1440	0.0410	1.5600e-003	0.0426		605.0964	605.0964	0.0340		605.9465
Worker	0.2654	0.1247	1.8852	5.4700e-003	0.5750	4.1400e-003	0.5792	0.1525	3.8100e-003	0.1563		545.4307	545.4307	0.0133		545.7629
Total	0.3113	1.7522	2.2269	0.0113	0.7174	5.7800e-003	0.7232	0.1935	5.3700e-003	0.1989		1,150.5271	1,150.5271	0.0473		1,151.7094

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2024**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	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	lb/day										lb/day					
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
Vendor	0.0459	1.6275	0.3417	5.7900e-003	0.1424	1.6400e-003	0.1440	0.0410	1.5600e-003	0.0426		605.0964	605.0964	0.0340		605.9465
Worker	0.2654	0.1247	1.8852	5.4700e-003	0.5750	4.1400e-003	0.5792	0.1525	3.8100e-003	0.1563		545.4307	545.4307	0.0133		545.7629
Total	0.3113	1.7522	2.2269	0.0113	0.7174	5.7800e-003	0.7232	0.1935	5.3700e-003	0.1989		1,150.5271	1,150.5271	0.0473		1,151.7094

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	lb/day										lb/day					
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
Vendor	0.0439	1.6135	0.3131	5.7400e-003	0.1424	1.6100e-003	0.1440	0.0410	1.5400e-003	0.0425		600.8199	600.8199	0.0356		601.7093
Worker	0.2480	0.1126	1.7383	5.2500e-003	0.5750	4.0500e-003	0.5791	0.1525	3.7300e-003	0.1563		523.5415	523.5415	0.0120		523.8406
Total	0.2919	1.7262	2.0514	0.0110	0.7174	5.6600e-003	0.7231	0.1935	5.2700e-003	0.1988		1,124.361 5	1,124.361 5	0.0475		1,125.549 9

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.3 Building Construction - 2025**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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	lb/day										lb/day					
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
Vendor	0.0439	1.6135	0.3131	5.7400e-003	0.1424	1.6100e-003	0.1440	0.0410	1.5400e-003	0.0425		600.8199	600.8199	0.0356		601.7093
Worker	0.2480	0.1126	1.7383	5.2500e-003	0.5750	4.0500e-003	0.5791	0.1525	3.7300e-003	0.1563		523.5415	523.5415	0.0120		523.8406
Total	0.2919	1.7262	2.0514	0.0110	0.7174	5.6600e-003	0.7231	0.1935	5.2700e-003	0.1988		1,124.361 5	1,124.361 5	0.0475		1,125.549 9

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.4 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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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	lb/day										lb/day					
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
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
Worker	0.0531	0.0241	0.3725	1.1300e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		112.1875	112.1875	2.5600e-003		112.2516
Total	0.0531	0.0241	0.3725	1.1300e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		112.1875	112.1875	2.5600e-003		112.2516

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.4 Paving - 2025**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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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	lb/day										lb/day					
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
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
Worker	0.0531	0.0241	0.3725	1.1300e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		112.1875	112.1875	2.5600e-003		112.2516
Total	0.0531	0.0241	0.3725	1.1300e-003	0.1232	8.7000e-004	0.1241	0.0327	8.0000e-004	0.0335		112.1875	112.1875	2.5600e-003		112.2516

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.5 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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0496	0.0225	0.3477	1.0500e-003	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		104.7083	104.7083	2.3900e-003		104.7681
Total	0.0496	0.0225	0.3477	1.0500e-003	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		104.7083	104.7083	2.3900e-003		104.7681

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.5 Architectural Coating - 2025**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0496	0.0225	0.3477	1.0500e-003	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		104.7083	104.7083	2.3900e-003		104.7681
Total	0.0496	0.0225	0.3477	1.0500e-003	0.1150	8.1000e-004	0.1158	0.0305	7.5000e-004	0.0313		104.7083	104.7083	2.3900e-003		104.7681

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.5 Architectural Coating - 2026**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0468	0.0208	0.3295	1.0400e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		103.5194	103.5194	2.2700e-003		103.5761
Total	0.0468	0.0208	0.3295	1.0400e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		103.5194	103.5194	2.2700e-003		103.5761

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

3.5 Architectural Coating - 2026**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	lb/day										lb/day					
Archit. Coating	29.1338					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	29.3046	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	lb/day										lb/day					
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
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
Worker	0.0468	0.0208	0.3295	1.0400e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		103.5194	103.5194	2.2700e-003		103.5761
Total	0.0468	0.0208	0.3295	1.0400e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		103.5194	103.5194	2.2700e-003		103.5761

4.0 Operational Detail - Mobile

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3497	7.5285	33.3163	0.1096	10.4164	0.0869	10.5032	2.7781	0.0805	2.8585		11,084.3538	11,084.3538	0.5197		11,097.3473
Unmitigated	3.4070	7.7903	35.3986	0.1172	11.1884	0.0926	11.2809	2.9840	0.0857	3.0697		11,852.0153	11,852.0153	0.5477		11,865.7077

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,831.36	1,850.76	1649.00	5,175,175	4,818,088
Total	1,831.36	1,850.76	1,649.00	5,175,175	4,818,088

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	42.30	19.60	38.10	86	11	3

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.521500	0.214600	0.168100	0.056900	0.000800	0.000900	0.007500	0.020300	0.000000	0.004400	0.002500	0.000200	0.002300

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	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	lb/day										lb/day					
NaturalGas Mitigated	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
NaturalGas Unmitigated	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

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	lb/day										lb/day					
Single Family Housing	13896.4	0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828
Total		0.1499	1.2807	0.5450	8.1700e-003		0.1035	0.1035		0.1035	0.1035		1,634.8676	1,634.8676	0.0313	0.0300	1,644.5828

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	lb/day										lb/day					
Single Family Housing	13.0621	0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548
Total		0.1409	1.2038	0.5122	7.6800e-003		0.0973	0.0973		0.0973	0.0973		1,536.7228	1,536.7228	0.0295	0.0282	1,545.8548

6.0 Area Detail**6.1 Mitigation Measures Area**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

	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	lb/day										lb/day					
Mitigated	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658
Unmitigated	8.7587	1.9542	16.7433	0.0121		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658

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	lb/day										lb/day					
Architectural Coating	0.5986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.4729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2071	1.7700	0.7532	0.0113		0.1431	0.1431		0.1431	0.1431	0.0000	2,259.5294	2,259.5294	0.0433	0.0414	2,272.9567
Landscaping	0.4801	0.1842	15.9901	8.5000e-004		0.0887	0.0887		0.0887	0.0887		28.8192	28.8192	0.0276		29.5091
Total	8.7587	1.9542	16.7433	0.0122		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.3486	2,288.3486	0.0709	0.0414	2,302.4658

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

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	lb/day										lb/day					
Architectural Coating	0.5986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.4729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2071	1.7700	0.7532	0.0113		0.1431	0.1431		0.1431	0.1431	0.0000	2,259.529 4	2,259.529 4	0.0433	0.0414	2,272.956 7
Landscaping	0.4801	0.1842	15.9901	8.5000e-004		0.0887	0.0887		0.0887	0.0887		28.8192	28.8192	0.0276		29.5091
Total	8.7587	1.9542	16.7433	0.0122		0.2318	0.2318		0.2318	0.2318	0.0000	2,288.348 6	2,288.348 6	0.0709	0.0414	2,302.465 8

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Summer

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

TSM 2020-05 Villa de Roma Subdivision

Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	194.00	Dwelling Unit	50.18	349,200.00	751

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating -

Vehicle Trips - ITE Trip Generation 10th Edition Rates

Fleet Mix - SJVAPCD 2030 Residential Fleet Mix used

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 14 intersections across 50.18 acres, equivalent to 178.55 intersections per mile. Distance to downtown is 2.81 miles. Distance to a transit stop is 0.83 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation -

Sequestration -

Woodstoves -

Waste Mitigation -

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblLandUse	LotAcreage	62.99	50.18
tblLandUse	Population	555.00	751.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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					
2005	1.3953	9.4074	5.4496	0.0650	0.5380	0.5657	1.1038	0.2143	0.5650	0.7792	0.0000	655.3129	655.3129	0.1162	0.0000	658.2185
2006	1.2371	6.4596	4.7554	0.0473	0.0905	0.4812	0.5717	0.0245	0.4799	0.5044	0.0000	495.5798	495.5798	0.1055	0.0000	498.2182
2007	1.2419	6.4845	4.7737	0.0475	0.0909	0.4830	0.5739	0.0246	0.4817	0.5063	0.0000	497.4859	497.4859	0.1059	0.0000	500.1345
2008	1.2466	6.5093	4.7920	0.0476	0.0912	0.4849	0.5761	0.0247	0.4836	0.5082	0.0000	499.3919	499.3919	0.1064	0.0000	502.0507
2009	1.4667	5.9893	4.0189	0.0425	0.0666	0.4284	0.4950	0.0180	0.4275	0.4455	0.0000	434.3008	434.3008	0.0906	0.0000	436.5660
2010	2.9098	0.1220	0.1124	1.4000e-004	3.6800e-003	0.0107	0.0144	9.8000e-004	0.0107	0.0117	0.0000	12.4079	12.4079	1.9600e-003	0.0000	12.4570
Maximum	2.9098	9.4074	5.4496	0.0650	0.5380	0.5657	1.1038	0.2143	0.5650	0.7792	0.0000	655.3129	655.3129	0.1162	0.0000	658.2185

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.1 Overall Construction**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					
2005	1.3953	9.4074	5.4496	0.0650	0.5380	0.5657	1.1038	0.2143	0.5650	0.7792	0.0000	655.3122	655.3122	0.1162	0.0000	658.2179
2006	1.2371	6.4596	4.7554	0.0473	0.0905	0.4812	0.5717	0.0245	0.4799	0.5044	0.0000	495.5794	495.5794	0.1055	0.0000	498.2178
2007	1.2419	6.4845	4.7737	0.0475	0.0909	0.4830	0.5739	0.0246	0.4817	0.5063	0.0000	497.4854	497.4854	0.1059	0.0000	500.1340
2008	1.2466	6.5093	4.7920	0.0476	0.0912	0.4849	0.5761	0.0247	0.4836	0.5082	0.0000	499.3915	499.3915	0.1064	0.0000	502.0503
2009	1.4667	5.9893	4.0189	0.0425	0.0666	0.4284	0.4950	0.0180	0.4275	0.4455	0.0000	434.3004	434.3004	0.0906	0.0000	436.5656
2010	2.9098	0.1220	0.1124	1.4000e-004	3.6800e-003	0.0107	0.0144	9.8000e-004	0.0107	0.0117	0.0000	12.4079	12.4079	1.9600e-003	0.0000	12.4570
Maximum	2.9098	9.4074	5.4496	0.0650	0.5380	0.5657	1.1038	0.2143	0.5650	0.7792	0.0000	655.3122	655.3122	0.1162	0.0000	658.2179

	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
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	1-1-2005	3-31-2005	3.7201	3.7201
2	4-1-2005	6-30-2005	3.2135	3.2135
3	7-1-2005	9-30-2005	1.9397	1.9397
4	10-1-2005	12-31-2005	1.9538	1.9538
5	1-1-2006	3-31-2006	1.9113	1.9113

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

6	4-1-2006	6-30-2006	1.9186	1.9186
7	7-1-2006	9-30-2006	1.9397	1.9397
8	10-1-2006	12-31-2006	1.9538	1.9538
9	1-1-2007	3-31-2007	1.9113	1.9113
10	4-1-2007	6-30-2007	1.9186	1.9186
11	7-1-2007	9-30-2007	1.9397	1.9397
12	10-1-2007	12-31-2007	1.9538	1.9538
13	1-1-2008	3-31-2008	1.9326	1.9326
14	4-1-2008	6-30-2008	1.9186	1.9186
15	7-1-2008	9-30-2008	1.9397	1.9397
16	10-1-2008	12-31-2008	1.9538	1.9538
17	1-1-2009	3-31-2009	1.9113	1.9113
18	4-1-2009	6-30-2009	1.9186	1.9186
19	7-1-2009	9-30-2009	1.8368	1.8368
20	10-1-2009	12-31-2009	1.7857	1.7857
21	1-1-2010	3-31-2010	2.9539	2.9539
22	4-1-2010	6-30-2010	0.0656	0.0656
		Highest	3.7201	3.7201

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614
Energy	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	765.0990	765.0990	0.0275	9.5900e-003	768.6448
Mobile	3.7588	21.1005	39.8455	0.1516	1.9693	0.4892	2.4585	0.5309	0.4669	0.9977	0.0000	3,382.4318	3,382.4318	0.5473	0.0000	3,396.1153
Waste						0.0000	0.0000		0.0000	0.0000	54.8806	0.0000	54.8806	3.2434	0.0000	135.9645
Water						0.0000	0.0000		0.0000	0.0000	4.0101	28.0103	32.0203	0.4131	9.9900e-003	45.3250
Total	6.5811	21.5810	50.9336	0.1839	1.9693	2.0361	4.0054	0.5309	2.0137	2.5446	261.7545	4,261.9363	4,523.6908	5.1851	0.0211	4,659.6109

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614
Energy	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	765.0990	765.0990	0.0275	9.5900e-003	768.6448
Mobile	3.6299	20.0740	37.8413	0.1432	1.8335	0.4612	2.2946	0.4942	0.4401	0.9344	0.0000	3,173.6695	3,173.6695	0.5269	0.0000	3,186.8423
Waste						0.0000	0.0000		0.0000	0.0000	54.8806	0.0000	54.8806	3.2434	0.0000	135.9645
Water						0.0000	0.0000		0.0000	0.0000	4.0101	28.0103	32.0203	0.4131	9.9900e-003	45.3250
Total	6.4522	20.5545	48.9294	0.1755	1.8335	2.0080	3.8415	0.4942	1.9870	2.4812	261.7545	4,053.1740	4,314.9285	5.1647	0.0211	4,450.3379

	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
Percent Reduction	1.96	4.76	3.93	4.56	6.90	1.38	4.09	6.90	1.33	2.49	0.00	4.90	4.61	0.39	0.00	4.49

3.0 Construction Detail**Construction Phase**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2005	6/3/2005	5	110	
2	Building Construction	Building Construction	6/4/2005	9/4/2009	5	1110	
3	Paving	Paving	9/5/2009	12/18/2009	5	75	
4	Architectural Coating	Architectural Coating	12/19/2009	4/2/2010	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 707,130; Residential Outdoor: 235,710; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	70.00	21.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2005**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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6626	5.6630	2.5349	0.0376		0.2879	0.2879		0.2879	0.2879	0.0000	359.8995	359.8995	0.0540	0.0000	361.2488
Total	0.6626	5.6630	2.5349	0.0376	0.4770	0.2879	0.7649	0.1978	0.2879	0.4857	0.0000	359.8995	359.8995	0.0540	0.0000	361.2488

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	0.0190	0.0177	0.1712	1.1000e-004	8.7600e-003	2.4000e-004	9.0000e-003	2.3300e-003	2.2000e-004	2.5500e-003	0.0000	9.5020	9.5020	1.3700e-003	0.0000	9.5362
Total	0.0190	0.0177	0.1712	1.1000e-004	8.7600e-003	2.4000e-004	9.0000e-003	2.3300e-003	2.2000e-004	2.5500e-003	0.0000	9.5020	9.5020	1.3700e-003	0.0000	9.5362

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2005**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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6626	5.6630	2.5349	0.0376		0.2879	0.2879		0.2879	0.2879	0.0000	359.8991	359.8991	0.0540	0.0000	361.2484
Total	0.6626	5.6630	2.5349	0.0376	0.4770	0.2879	0.7649	0.1978	0.2879	0.4857	0.0000	359.8991	359.8991	0.0540	0.0000	361.2484

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	0.0190	0.0177	0.1712	1.1000e-004	8.7600e-003	2.4000e-004	9.0000e-003	2.3300e-003	2.2000e-004	2.5500e-003	0.0000	9.5020	9.5020	1.3700e-003	0.0000	9.5362
Total	0.0190	0.0177	0.1712	1.1000e-004	8.7600e-003	2.4000e-004	9.0000e-003	2.3300e-003	2.2000e-004	2.5500e-003	0.0000	9.5020	9.5020	1.3700e-003	0.0000	9.5362

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2005**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	0.5637	3.1084	1.5291	0.0228		0.2610	0.2610		0.2610	0.2610	0.0000	197.1458	197.1458	0.0460	0.0000	198.2959
Total	0.5637	3.1084	1.5291	0.0228		0.2610	0.2610		0.2610	0.2610	0.0000	197.1458	197.1458	0.0460	0.0000	198.2959

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	0.0592	0.5341	0.3972	3.9500e-003	0.0104	0.0155	0.0259	3.0100e-003	0.0148	0.0178	0.0000	43.4154	43.4154	8.3500e-003	0.0000	43.6242
Worker	0.0909	0.0843	0.8172	5.2000e-004	0.0418	1.1400e-003	0.0430	0.0111	1.0500e-003	0.0122	0.0000	45.3502	45.3502	6.5300e-003	0.0000	45.5135
Total	0.1500	0.6183	1.2144	4.4700e-003	0.0522	0.0166	0.0689	0.0141	0.0159	0.0300	0.0000	88.7656	88.7656	0.0149	0.0000	89.1377

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2005**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	0.5637	3.1084	1.5291	0.0228		0.2610	0.2610		0.2610	0.2610	0.0000	197.1455	197.1455	0.0460	0.0000	198.2956
Total	0.5637	3.1084	1.5291	0.0228		0.2610	0.2610		0.2610	0.2610	0.0000	197.1455	197.1455	0.0460	0.0000	198.2956

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	0.0592	0.5341	0.3972	3.9500e-003	0.0104	0.0155	0.0259	3.0100e-003	0.0148	0.0178	0.0000	43.4154	43.4154	8.3500e-003	0.0000	43.6242
Worker	0.0909	0.0843	0.8172	5.2000e-004	0.0418	1.1400e-003	0.0430	0.0111	1.0500e-003	0.0122	0.0000	45.3502	45.3502	6.5300e-003	0.0000	45.5135
Total	0.1500	0.6183	1.2144	4.4700e-003	0.0522	0.0166	0.0689	0.0141	0.0159	0.0300	0.0000	88.7656	88.7656	0.0149	0.0000	89.1377

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2006**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	0.9770	5.3879	2.6505	0.0395		0.4524	0.4524		0.4524	0.4524	0.0000	341.7193	341.7193	0.0797	0.0000	343.7129
Total	0.9770	5.3879	2.6505	0.0395		0.4524	0.4524		0.4524	0.4524	0.0000	341.7193	341.7193	0.0797	0.0000	343.7129

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	0.1026	0.9257	0.6885	6.8500e-003	0.0181	0.0269	0.0449	5.2200e-003	0.0257	0.0309	0.0000	75.2534	75.2534	0.0145	0.0000	75.6153
Worker	0.1575	0.1461	1.4164	8.9000e-004	0.0725	1.9700e-003	0.0745	0.0193	1.8300e-003	0.0211	0.0000	78.6071	78.6071	0.0113	0.0000	78.8901
Total	0.2601	1.0718	2.1049	7.7400e-003	0.0905	0.0288	0.1194	0.0245	0.0275	0.0520	0.0000	153.8605	153.8605	0.0258	0.0000	154.5054

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2006**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	0.9770	5.3878	2.6505	0.0395		0.4524	0.4524		0.4524	0.4524	0.0000	341.7189	341.7189	0.0797	0.0000	343.7124
Total	0.9770	5.3878	2.6505	0.0395		0.4524	0.4524		0.4524	0.4524	0.0000	341.7189	341.7189	0.0797	0.0000	343.7124

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	0.1026	0.9257	0.6885	6.8500e-003	0.0181	0.0269	0.0449	5.2200e-003	0.0257	0.0309	0.0000	75.2534	75.2534	0.0145	0.0000	75.6153
Worker	0.1575	0.1461	1.4164	8.9000e-004	0.0725	1.9700e-003	0.0745	0.0193	1.8300e-003	0.0211	0.0000	78.6071	78.6071	0.0113	0.0000	78.8901
Total	0.2601	1.0718	2.1049	7.7400e-003	0.0905	0.0288	0.1194	0.0245	0.0275	0.0520	0.0000	153.8605	153.8605	0.0258	0.0000	154.5054

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2007**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	0.9808	5.4086	2.6607	0.0397		0.4541	0.4541		0.4541	0.4541	0.0000	343.0336	343.0336	0.0801	0.0000	345.0348
Total	0.9808	5.4086	2.6607	0.0397		0.4541	0.4541		0.4541	0.4541	0.0000	343.0336	343.0336	0.0801	0.0000	345.0348

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	0.1030	0.9293	0.6911	6.8700e-003	0.0181	0.0270	0.0451	5.2400e-003	0.0258	0.0310	0.0000	75.5428	75.5428	0.0145	0.0000	75.9062
Worker	0.1581	0.1467	1.4219	9.0000e-004	0.0728	1.9800e-003	0.0747	0.0194	1.8400e-003	0.0212	0.0000	78.9094	78.9094	0.0114	0.0000	79.1935
Total	0.2611	1.0759	2.1130	7.7700e-003	0.0909	0.0289	0.1198	0.0246	0.0276	0.0522	0.0000	154.4522	154.4522	0.0259	0.0000	155.0996

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2007**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	0.9808	5.4086	2.6607	0.0397		0.4541	0.4541		0.4541	0.4541	0.0000	343.0332	343.0332	0.0801	0.0000	345.0344
Total	0.9808	5.4086	2.6607	0.0397		0.4541	0.4541		0.4541	0.4541	0.0000	343.0332	343.0332	0.0801	0.0000	345.0344

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	0.1030	0.9293	0.6911	6.8700e-003	0.0181	0.0270	0.0451	5.2400e-003	0.0258	0.0310	0.0000	75.5428	75.5428	0.0145	0.0000	75.9062
Worker	0.1581	0.1467	1.4219	9.0000e-004	0.0728	1.9800e-003	0.0747	0.0194	1.8400e-003	0.0212	0.0000	78.9094	78.9094	0.0114	0.0000	79.1935
Total	0.2611	1.0759	2.1130	7.7700e-003	0.0909	0.0289	0.1198	0.0246	0.0276	0.0522	0.0000	154.4522	154.4522	0.0259	0.0000	155.0996

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2008**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	0.9846	5.4293	2.6709	0.0398		0.4558	0.4558		0.4558	0.4558	0.0000	344.3479	344.3479	0.0804	0.0000	346.3568
Total	0.9846	5.4293	2.6709	0.0398		0.4558	0.4558		0.4558	0.4558	0.0000	344.3479	344.3479	0.0804	0.0000	346.3568

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	0.1034	0.9328	0.6938	6.9000e-003	0.0182	0.0271	0.0452	5.2600e-003	0.0259	0.0311	0.0000	75.8323	75.8323	0.0146	0.0000	76.1970
Worker	0.1587	0.1472	1.4273	9.0000e-004	0.0730	1.9900e-003	0.0750	0.0194	1.8400e-003	0.0213	0.0000	79.2117	79.2117	0.0114	0.0000	79.4969
Total	0.2621	1.0800	2.1211	7.8000e-003	0.0912	0.0290	0.1203	0.0247	0.0277	0.0524	0.0000	155.0440	155.0440	0.0260	0.0000	155.6939

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2008**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	0.9846	5.4293	2.6709	0.0398		0.4558	0.4558		0.4558	0.4558	0.0000	344.3475	344.3475	0.0804	0.0000	346.3564
Total	0.9846	5.4293	2.6709	0.0398		0.4558	0.4558		0.4558	0.4558	0.0000	344.3475	344.3475	0.0804	0.0000	346.3564

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	0.1034	0.9328	0.6938	6.9000e-003	0.0182	0.0271	0.0452	5.2600e-003	0.0259	0.0311	0.0000	75.8323	75.8323	0.0146	0.0000	76.1970
Worker	0.1587	0.1472	1.4273	9.0000e-004	0.0730	1.9900e-003	0.0750	0.0194	1.8400e-003	0.0213	0.0000	79.2117	79.2117	0.0114	0.0000	79.4969
Total	0.2621	1.0800	2.1211	7.8000e-003	0.0912	0.0290	0.1203	0.0247	0.0277	0.0524	0.0000	155.0440	155.0440	0.0260	0.0000	155.6939

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2009**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	0.6651	3.6679	1.8044	0.0269		0.3080	0.3080		0.3080	0.3080	0.0000	232.6320	232.6320	0.0543	0.0000	233.9891
Total	0.6651	3.6679	1.8044	0.0269		0.3080	0.3080		0.3080	0.3080	0.0000	232.6320	232.6320	0.0543	0.0000	233.9891

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	0.0698	0.6302	0.4687	4.6600e-003	0.0123	0.0183	0.0306	3.5500e-003	0.0175	0.0210	0.0000	51.2302	51.2302	9.8600e-003	0.0000	51.4766
Worker	0.1072	0.0995	0.9643	6.1000e-004	0.0494	1.3400e-003	0.0507	0.0131	1.2400e-003	0.0144	0.0000	53.5133	53.5133	7.7100e-003	0.0000	53.7059
Total	0.1770	0.7296	1.4330	5.2700e-003	0.0616	0.0196	0.0813	0.0167	0.0187	0.0354	0.0000	104.7435	104.7435	0.0176	0.0000	105.1825

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2009**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	0.6651	3.6679	1.8044	0.0269		0.3080	0.3080		0.3080	0.3080	0.0000	232.6317	232.6317	0.0543	0.0000	233.9889
Total	0.6651	3.6679	1.8044	0.0269		0.3080	0.3080		0.3080	0.3080	0.0000	232.6317	232.6317	0.0543	0.0000	233.9889

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	0.0698	0.6302	0.4687	4.6600e-003	0.0123	0.0183	0.0306	3.5500e-003	0.0175	0.0210	0.0000	51.2302	51.2302	9.8600e-003	0.0000	51.4766
Worker	0.1072	0.0995	0.9643	6.1000e-004	0.0494	1.3400e-003	0.0507	0.0131	1.2400e-003	0.0144	0.0000	53.5133	53.5133	7.7100e-003	0.0000	53.7059
Total	0.1770	0.7296	1.4330	5.2700e-003	0.0616	0.0196	0.0813	0.0167	0.0187	0.0354	0.0000	104.7435	104.7435	0.0176	0.0000	105.1825

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 Paving - 2009**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	0.2170	1.5625	0.6748	0.0101		0.0989	0.0989		0.0989	0.0989	0.0000	90.3732	90.3732	0.0177	0.0000	90.8159
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2170	1.5625	0.6748	0.0101		0.0989	0.0989		0.0989	0.0989	0.0000	90.3732	90.3732	0.0177	0.0000	90.8159

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7300e-003	9.0300e-003	0.0876	6.0000e-005	4.4800e-003	1.2000e-004	4.6000e-003	1.1900e-003	1.1000e-004	1.3000e-003	0.0000	4.8590	4.8590	7.0000e-004	0.0000	4.8765
Total	9.7300e-003	9.0300e-003	0.0876	6.0000e-005	4.4800e-003	1.2000e-004	4.6000e-003	1.1900e-003	1.1000e-004	1.3000e-003	0.0000	4.8590	4.8590	7.0000e-004	0.0000	4.8765

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 Paving - 2009**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	0.2170	1.5625	0.6748	0.0101		0.0989	0.0989		0.0989	0.0989	0.0000	90.3731	90.3731	0.0177	0.0000	90.8158
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2170	1.5625	0.6748	0.0101		0.0989	0.0989		0.0989	0.0989	0.0000	90.3731	90.3731	0.0177	0.0000	90.8158

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7300e-003	9.0300e-003	0.0876	6.0000e-005	4.4800e-003	1.2000e-004	4.6000e-003	1.1900e-003	1.1000e-004	1.3000e-003	0.0000	4.8590	4.8590	7.0000e-004	0.0000	4.8765
Total	9.7300e-003	9.0300e-003	0.0876	6.0000e-005	4.4800e-003	1.2000e-004	4.6000e-003	1.1900e-003	1.1000e-004	1.3000e-003	0.0000	4.8590	4.8590	7.0000e-004	0.0000	4.8765

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2009**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	0.3933					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3800e-003	0.0193	9.3500e-003	1.3000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	1.1490	1.1490	2.8000e-004	0.0000	1.1559
Total	0.3967	0.0193	9.3500e-003	1.3000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	1.1490	1.1490	2.8000e-004	0.0000	1.1559

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	1.0900e-003	1.0100e-003	9.8100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.2000e-004	1.3000e-004	1.0000e-005	1.5000e-004	0.0000	0.5442	0.5442	8.0000e-005	0.0000	0.5462
Total	1.0900e-003	1.0100e-003	9.8100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.2000e-004	1.3000e-004	1.0000e-005	1.5000e-004	0.0000	0.5442	0.5442	8.0000e-005	0.0000	0.5462

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2009**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	0.3933					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3800e-003	0.0193	9.3500e-003	1.3000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	1.1490	1.1490	2.8000e-004	0.0000	1.1559
Total	0.3967	0.0193	9.3500e-003	1.3000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	1.1490	1.1490	2.8000e-004	0.0000	1.1559

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	1.0900e-003	1.0100e-003	9.8100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.2000e-004	1.3000e-004	1.0000e-005	1.5000e-004	0.0000	0.5442	0.5442	8.0000e-005	0.0000	0.5462
Total	1.0900e-003	1.0100e-003	9.8100e-003	1.0000e-005	5.0000e-004	1.0000e-005	5.2000e-004	1.3000e-004	1.0000e-005	1.5000e-004	0.0000	0.5442	0.5442	8.0000e-005	0.0000	0.5462

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2010**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	2.8842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.1174	0.0661	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	8.4257	8.4257	1.6200e-003	0.0000	8.4661
Total	2.9041	0.1174	0.0661	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	8.4257	8.4257	1.6200e-003	0.0000	8.4661

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-003	4.6300e-003	0.0463	4.0000e-005	3.6800e-003	6.0000e-005	3.7400e-003	9.8000e-004	6.0000e-005	1.0300e-003	0.0000	3.9822	3.9822	3.5000e-004	0.0000	3.9909
Total	5.7000e-003	4.6300e-003	0.0463	4.0000e-005	3.6800e-003	6.0000e-005	3.7400e-003	9.8000e-004	6.0000e-005	1.0300e-003	0.0000	3.9822	3.9822	3.5000e-004	0.0000	3.9909

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2010**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	2.8842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.1174	0.0661	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	8.4257	8.4257	1.6200e-003	0.0000	8.4661
Total	2.9041	0.1174	0.0661	1.0000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	8.4257	8.4257	1.6200e-003	0.0000	8.4661

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-003	4.6300e-003	0.0463	4.0000e-005	3.6800e-003	6.0000e-005	3.7400e-003	9.8000e-004	6.0000e-005	1.0300e-003	0.0000	3.9822	3.9822	3.5000e-004	0.0000	3.9909
Total	5.7000e-003	4.6300e-003	0.0463	4.0000e-005	3.6800e-003	6.0000e-005	3.7400e-003	9.8000e-004	6.0000e-005	1.0300e-003	0.0000	3.9822	3.9822	3.5000e-004	0.0000	3.9909

4.0 Operational Detail - Mobile

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6299	20.0740	37.8413	0.1432	1.8335	0.4612	2.2946	0.4942	0.4401	0.9344	0.0000	3,173.6695	3,173.6695	0.5269	0.0000	3,186.8423
Unmitigated	3.7588	21.1005	39.8455	0.1516	1.9693	0.4892	2.4585	0.5309	0.4669	0.9977	0.0000	3,382.4318	3,382.4318	0.5473	0.0000	3,396.1153

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,831.36	1,850.76	1649.00	5,175,175	4,818,088
Total	1,831.36	1,850.76	1,649.00	5,175,175	4,818,088

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	42.30	19.60	38.10	86	11	3

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.406248	0.060884	0.165176	0.186546	0.051013	0.007949	0.016561	0.088777	0.003025	0.001372	0.008068	0.001532	0.002848

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	494.4284	494.4284	0.0224	4.6300e-003	496.3657
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	494.4284	494.4284	0.0224	4.6300e-003	496.3657
NaturalGas Mitigated	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791
NaturalGas Unmitigated	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	5.07218e+006	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791
Total		0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

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	5.07218e+006	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791
Total		0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.69958e+006	494.4284	0.0224	4.6300e-003	496.3657
Total		494.4284	0.0224	4.6300e-003	496.3657

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.69958e+006	494.4284	0.0224	4.6300e-003	496.3657
Total		494.4284	0.0224	4.6300e-003	496.3657

6.0 Area Detail**6.1 Mitigation Measures Area**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614
Unmitigated	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614

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	0.3278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0311	0.2241	9.3180	0.0308		1.5209	1.5209		1.5209	1.5209	202.8638	84.0422	286.9061	0.9500	1.5400e-003	311.1142
Landscaping	0.0723	0.0227	1.6706	8.0000e-005		7.0500e-003	7.0500e-003		7.0500e-003	7.0500e-003	0.0000	2.3530	2.3530	3.7700e-003	0.0000	2.4472
Total	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	0.3278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0311	0.2241	9.3180	0.0308		1.5209	1.5209		1.5209	1.5209	202.8638	84.0422	286.9061	0.9500	1.5400e-003	311.1142
Landscaping	0.0723	0.0227	1.6706	8.0000e-005		7.0500e-003	7.0500e-003		7.0500e-003	7.0500e-003	0.0000	2.3530	2.3530	3.7700e-003	0.0000	2.4472
Total	2.7950	0.2468	10.9887	0.0308		1.5280	1.5280		1.5280	1.5280	202.8638	86.3952	289.2591	0.9537	1.5400e-003	313.5614

7.0 Water Detail**7.1 Mitigation Measures Water**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.0203	0.4131	9.9900e-003	45.3250
Unmitigated	32.0203	0.4131	9.9900e-003	45.3250

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	32.0203	0.4131	9.9900e-003	45.3250
Total		32.0203	0.4131	9.9900e-003	45.3250

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	32.0203	0.4131	9.9900e-003	45.3250
Total		32.0203	0.4131	9.9900e-003	45.3250

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	54.8806	3.2434	0.0000	135.9645
Unmitigated	54.8806	3.2434	0.0000	135.9645

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270.36	54.8806	3.2434	0.0000	135.9645
Total		54.8806	3.2434	0.0000	135.9645

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270.36	54.8806	3.2434	0.0000	135.9645
Total		54.8806	3.2434	0.0000	135.9645

9.0 Operational Offroad

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

TSM 2020-05 Villa de Roma Subdivision

Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	194.00	Dwelling Unit	50.18	349,200.00	751

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2030 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 14 intersections across 50.18 acres, equivalent to 178.55 intersections per mile. Distance to downtown is 2.81 miles. Distance to a transit stop is 0.83 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 294.5492. Kilowatt-hours output using PVwatts.

Sequestration -

Woodstoves - Woodstoves not allowed per SJVAPCD Rule 4901

Waste Mitigation - Assumes 75% solid waste diversion requirement pursuant to AB 341 is implemented.

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.57	0.51
tblFleetMix	LDT1	0.03	0.22
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.8520e-003	1.0000e-003
tblFleetMix	MCY	6.1600e-003	2.5000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	5.6400e-004	3.0000e-003
tblFleetMix	MHD	0.01	7.4000e-003
tblFleetMix	OBUS	2.5590e-003	0.00
tblFleetMix	SBUS	1.1070e-003	1.2000e-003
tblFleetMix	UBUS	1.5000e-003	4.4000e-003
tblLandUse	LotAcreage	62.99	50.18
tblLandUse	Population	555.00	751.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	50.18	0.00
tblWoodstoves	NumberNoncatalytic	50.18	0.00

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4065	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6035	562.6035	0.1439	0.0000	566.2005
2022	0.2661	2.3320	2.4364	4.9600e-003	0.0905	0.1065	0.1970	0.0245	0.1002	0.1247	0.0000	436.2814	436.2814	0.0796	0.0000	438.2723
2023	0.2434	2.1044	2.3884	4.9100e-003	0.0905	0.0917	0.1823	0.0245	0.0863	0.1108	0.0000	432.3043	432.3043	0.0773	0.0000	434.2367
2024	0.2296	1.9937	2.3780	4.9300e-003	0.0912	0.0811	0.1723	0.0247	0.0763	0.1010	0.0000	433.9798	433.9798	0.0775	0.0000	435.9176
2025	0.3125	1.5863	2.1534	4.2200e-003	0.0666	0.0632	0.1298	0.0180	0.0591	0.0771	0.0000	371.4116	371.4116	0.0766	0.0000	373.3256
2026	0.9684	0.0385	0.0690	1.3000e-004	3.6800e-003	1.7300e-003	5.4100e-003	9.8000e-004	1.7200e-003	2.7000e-003	0.0000	11.2610	11.2610	5.2000e-004	0.0000	11.2740
Maximum	0.9684	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6035	562.6035	0.1439	0.0000	566.2005

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

2.1 Overall Construction**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4065	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6030	562.6030	0.1439	0.0000	566.2000
2022	0.2661	2.3320	2.4364	4.9600e-003	0.0905	0.1065	0.1970	0.0245	0.1002	0.1247	0.0000	436.2810	436.2810	0.0796	0.0000	438.2719
2023	0.2434	2.1044	2.3884	4.9100e-003	0.0905	0.0917	0.1823	0.0245	0.0863	0.1108	0.0000	432.3040	432.3040	0.0773	0.0000	434.2364
2024	0.2296	1.9937	2.3780	4.9300e-003	0.0912	0.0811	0.1723	0.0247	0.0763	0.1010	0.0000	433.9794	433.9794	0.0775	0.0000	435.9173
2025	0.3125	1.5863	2.1534	4.2200e-003	0.0666	0.0632	0.1298	0.0180	0.0591	0.0771	0.0000	371.4112	371.4112	0.0766	0.0000	373.3253
2026	0.9684	0.0385	0.0690	1.3000e-004	3.6800e-003	1.7300e-003	5.4100e-003	9.8000e-004	1.7200e-003	2.7000e-003	0.0000	11.2610	11.2610	5.2000e-004	0.0000	11.2740
Maximum	0.9684	4.0572	3.1796	6.4000e-003	0.5384	0.1825	0.7209	0.2144	0.1694	0.3837	0.0000	562.6030	562.6030	0.1439	0.0000	566.2000

	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
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	1-1-2021	3-31-2021	1.6309	1.6309
2	4-1-2021	6-30-2021	1.3734	1.3734
3	7-1-2021	9-30-2021	0.7282	0.7282
4	10-1-2021	12-31-2021	0.7294	0.7294
5	1-1-2022	3-31-2022	0.6433	0.6433

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

6	4-1-2022	6-30-2022	0.6495	0.6495
7	7-1-2022	9-30-2022	0.6566	0.6566
8	10-1-2022	12-31-2022	0.6576	0.6576
9	1-1-2023	3-31-2023	0.5814	0.5814
10	4-1-2023	6-30-2023	0.5872	0.5872
11	7-1-2023	9-30-2023	0.5937	0.5937
12	10-1-2023	12-31-2023	0.5943	0.5943
13	1-1-2024	3-31-2024	0.5524	0.5524
14	4-1-2024	6-30-2024	0.5518	0.5518
15	7-1-2024	9-30-2024	0.5579	0.5579
16	10-1-2024	12-31-2024	0.5584	0.5584
17	1-1-2025	3-31-2025	0.5101	0.5101
18	4-1-2025	6-30-2025	0.5153	0.5153
19	7-1-2025	9-30-2025	0.4626	0.4626
20	10-1-2025	12-31-2025	0.4119	0.4119
21	1-1-2026	3-31-2026	0.9810	0.9810
22	4-1-2026	6-30-2026	0.0218	0.0218
		Highest	1.6309	1.6309

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507
Energy	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	494.2369	494.2369	0.0275	9.5900e-003	497.7827
Mobile	0.3583	1.1690	4.3369	0.0172	1.9331	0.0127	1.9458	0.5175	0.0118	0.5293	0.0000	1,584.6623	1,584.6623	0.0697	0.0000	1,586.4040
Waste						0.0000	0.0000		0.0000	0.0000	54.8806	0.0000	54.8806	3.2434	0.0000	135.9645
Water						0.0000	0.0000		0.0000	0.0000	4.0101	12.6654	16.6755	0.4131	9.9900e-003	29.9801
Total	1.9102	1.4918	5.9039	0.0193	1.9331	0.0455	1.9786	0.5175	0.0445	0.5620	58.8907	2,177.9599	2,236.8506	3.7576	0.0211	2,337.0820

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507
Energy	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	415.0898	415.0898	0.0209	7.9900e-003	417.9940
Mobile	0.3508	1.1309	4.0955	0.0161	1.7997	0.0119	1.8117	0.4818	0.0111	0.4928	0.0000	1,481.9375	1,481.9375	0.0663	0.0000	1,483.5949
Waste						0.0000	0.0000		0.0000	0.0000	13.7202	0.0000	13.7202	0.8108	0.0000	33.9911
Water						0.0000	0.0000		0.0000	0.0000	4.0101	12.6654	16.6755	0.4131	9.9900e-003	29.9801
Total	1.9011	1.4397	5.6566	0.0180	1.7997	0.0436	1.8433	0.4818	0.0427	0.5245	17.7302	1,996.0880	2,013.8182	1.3151	0.0195	2,052.5108

	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
Percent Reduction	0.48	3.49	4.19	6.29	6.90	4.20	6.84	6.90	4.16	6.68	69.89	8.35	9.97	65.00	7.58	12.18

3.0 Construction Detail**Construction Phase**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	6/3/2021	5	110	
2	Building Construction	Building Construction	6/4/2021	9/4/2025	5	1110	
3	Paving	Paving	9/5/2025	12/18/2025	5	75	
4	Architectural Coating	Architectural Coating	12/19/2025	4/2/2026	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 707,130; Residential Outdoor: 235,710; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	70.00	21.00	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	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458
Total	0.2305	2.5520	1.6983	3.4100e-003	0.4770	0.1092	0.5862	0.1978	0.1005	0.2983	0.0000	299.7224	299.7224	0.0969	0.0000	302.1458

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268
Total	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.2 Grading - 2021**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					0.4770	0.0000	0.4770	0.1978	0.0000	0.1978	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2305	2.5520	1.6983	3.4100e-003		0.1092	0.1092		0.1005	0.1005	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455
Total	0.2305	2.5520	1.6983	3.4100e-003	0.4770	0.1092	0.5862	0.1978	0.1005	0.2983	0.0000	299.7220	299.7220	0.0969	0.0000	302.1455

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268
Total	4.6000e-003	2.9200e-003	0.0326	9.0000e-005	8.7600e-003	7.0000e-005	8.8300e-003	2.3300e-003	6.0000e-005	2.3900e-003	0.0000	7.8210	7.8210	2.3000e-004	0.0000	7.8268

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8861	174.8861	0.0422	0.0000	175.9410

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	5.7500e-003	0.1721	0.0407	4.5000e-004	0.0105	5.2000e-004	0.0110	3.0300e-003	5.0000e-004	3.5300e-003	0.0000	42.5974	42.5974	3.4100e-003	0.0000	42.6828
Worker	0.0221	0.0141	0.1566	4.2000e-004	0.0421	3.3000e-004	0.0424	0.0112	3.0000e-004	0.0115	0.0000	37.5765	37.5765	1.1100e-003	0.0000	37.6042
Total	0.0278	0.1861	0.1973	8.7000e-004	0.0526	8.5000e-004	0.0534	0.0142	8.0000e-004	0.0150	0.0000	80.1740	80.1740	4.5200e-003	0.0000	80.2870

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2021**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	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407
Total	0.1435	1.3161	1.2514	2.0300e-003		0.0724	0.0724		0.0681	0.0681	0.0000	174.8859	174.8859	0.0422	0.0000	175.9407

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	5.7500e-003	0.1721	0.0407	4.5000e-004	0.0105	5.2000e-004	0.0110	3.0300e-003	5.0000e-004	3.5300e-003	0.0000	42.5974	42.5974	3.4100e-003	0.0000	42.6828
Worker	0.0221	0.0141	0.1566	4.2000e-004	0.0421	3.3000e-004	0.0424	0.0112	3.0000e-004	0.0115	0.0000	37.5765	37.5765	1.1100e-003	0.0000	37.6042
Total	0.0278	0.1861	0.1973	8.7000e-004	0.0526	8.5000e-004	0.0534	0.0142	8.0000e-004	0.0150	0.0000	80.1740	80.1740	4.5200e-003	0.0000	80.2870

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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	9.1000e-003	0.2804	0.0631	7.7000e-004	0.0181	7.8000e-004	0.0188	5.2200e-003	7.5000e-004	5.9700e-003	0.0000	72.6755	72.6755	5.7600e-003	0.0000	72.8196
Worker	0.0352	0.0216	0.2460	6.9000e-004	0.0725	5.5000e-004	0.0730	0.0193	5.0000e-004	0.0198	0.0000	62.3631	62.3631	1.7000e-003	0.0000	62.4057
Total	0.0443	0.3020	0.3091	1.4600e-003	0.0905	1.3300e-003	0.0919	0.0245	1.2500e-003	0.0258	0.0000	135.0386	135.0386	7.4600e-003	0.0000	135.2252

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2022**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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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	9.1000e-003	0.2804	0.0631	7.7000e-004	0.0181	7.8000e-004	0.0188	5.2200e-003	7.5000e-004	5.9700e-003	0.0000	72.6755	72.6755	5.7600e-003	0.0000	72.8196
Worker	0.0352	0.0216	0.2460	6.9000e-004	0.0725	5.5000e-004	0.0730	0.0193	5.0000e-004	0.0198	0.0000	62.3631	62.3631	1.7000e-003	0.0000	62.4057
Total	0.0443	0.3020	0.3091	1.4600e-003	0.0905	1.3300e-003	0.0919	0.0245	1.2500e-003	0.0258	0.0000	135.0386	135.0386	7.4600e-003	0.0000	135.2252

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383

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	6.3800e-003	0.2151	0.0521	7.5000e-004	0.0181	2.2000e-004	0.0183	5.2200e-003	2.1000e-004	5.4200e-003	0.0000	70.9508	70.9508	4.0900e-003	0.0000	71.0532
Worker	0.0326	0.0193	0.2246	6.6000e-004	0.0725	5.3000e-004	0.0730	0.0193	4.9000e-004	0.0198	0.0000	60.0073	60.0073	1.5200e-003	0.0000	60.0453
Total	0.0390	0.2344	0.2767	1.4100e-003	0.0905	7.5000e-004	0.0913	0.0245	7.0000e-004	0.0252	0.0000	130.9582	130.9582	5.6100e-003	0.0000	131.0984

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2023**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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380

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	6.3800e-003	0.2151	0.0521	7.5000e-004	0.0181	2.2000e-004	0.0183	5.2200e-003	2.1000e-004	5.4200e-003	0.0000	70.9508	70.9508	4.0900e-003	0.0000	71.0532
Worker	0.0326	0.0193	0.2246	6.6000e-004	0.0725	5.3000e-004	0.0730	0.0193	4.9000e-004	0.0198	0.0000	60.0073	60.0073	1.5200e-003	0.0000	60.0453
Total	0.0390	0.2344	0.2767	1.4100e-003	0.0905	7.5000e-004	0.0913	0.0245	7.0000e-004	0.0252	0.0000	130.9582	130.9582	5.6100e-003	0.0000	131.0984

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

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	6.1200e-003	0.2149	0.0478	7.5000e-004	0.0182	2.2000e-004	0.0184	5.2600e-003	2.1000e-004	5.4600e-003	0.0000	70.9561	70.9561	4.2700e-003	0.0000	71.0629
Worker	0.0307	0.0177	0.2123	6.6000e-004	0.0730	5.4000e-004	0.0736	0.0194	5.0000e-004	0.0199	0.0000	59.3013	59.3013	1.4200e-003	0.0000	59.3369
Total	0.0368	0.2326	0.2601	1.4100e-003	0.0912	7.6000e-004	0.0920	0.0247	7.1000e-004	0.0254	0.0000	130.2575	130.2575	5.6900e-003	0.0000	130.3997

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2024**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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

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	6.1200e-003	0.2149	0.0478	7.5000e-004	0.0182	2.2000e-004	0.0184	5.2600e-003	2.1000e-004	5.4600e-003	0.0000	70.9561	70.9561	4.2700e-003	0.0000	71.0629
Worker	0.0307	0.0177	0.2123	6.6000e-004	0.0730	5.4000e-004	0.0736	0.0194	5.0000e-004	0.0199	0.0000	59.3013	59.3013	1.4200e-003	0.0000	59.3369
Total	0.0368	0.2326	0.2601	1.4100e-003	0.0912	7.6000e-004	0.0920	0.0247	7.1000e-004	0.0254	0.0000	130.2575	130.2575	5.6900e-003	0.0000	130.3997

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 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	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2487	205.2487	0.0483	0.0000	206.4549
Total	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2487	205.2487	0.0483	0.0000	206.4549

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	3.9600e-003	0.1439	0.0296	5.0000e-004	0.0123	1.4000e-004	0.0124	3.5500e-003	1.4000e-004	3.6900e-003	0.0000	47.6028	47.6028	3.0200e-003	0.0000	47.6783
Worker	0.0194	0.0108	0.1321	4.3000e-004	0.0494	3.6000e-004	0.0497	0.0131	3.3000e-004	0.0135	0.0000	38.4560	38.4560	8.6000e-004	0.0000	38.4776
Total	0.0234	0.1547	0.1617	9.3000e-004	0.0616	5.0000e-004	0.0621	0.0167	4.7000e-004	0.0171	0.0000	86.0588	86.0588	3.8800e-003	0.0000	86.1559

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.3 Building Construction - 2025**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	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2485	205.2485	0.0483	0.0000	206.4547
Total	0.1210	1.1036	1.4235	2.3900e-003		0.0467	0.0467		0.0439	0.0439	0.0000	205.2485	205.2485	0.0483	0.0000	206.4547

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	3.9600e-003	0.1439	0.0296	5.0000e-004	0.0123	1.4000e-004	0.0124	3.5500e-003	1.4000e-004	3.6900e-003	0.0000	47.6028	47.6028	3.0200e-003	0.0000	47.6783
Worker	0.0194	0.0108	0.1321	4.3000e-004	0.0494	3.6000e-004	0.0497	0.0131	3.3000e-004	0.0135	0.0000	38.4560	38.4560	8.6000e-004	0.0000	38.4776
Total	0.0234	0.1547	0.1617	9.3000e-004	0.0616	5.0000e-004	0.0621	0.0167	4.7000e-004	0.0171	0.0000	86.0588	86.0588	3.8800e-003	0.0000	86.1559

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 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	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0722	75.0722	0.0243	0.0000	75.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0722	75.0722	0.0243	0.0000	75.6792

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	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937
Total	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.4 Paving - 2025**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	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0721	75.0721	0.0243	0.0000	75.6791
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0343	0.3218	0.5467	8.5000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	75.0721	75.0721	0.0243	0.0000	75.6791

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	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937
Total	1.7600e-003	9.8000e-004	0.0120	4.0000e-005	4.4800e-003	3.0000e-005	4.5100e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	3.4918	3.4918	8.0000e-005	0.0000	3.4937

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 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	0.1311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505
Total	0.1319	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505

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	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2025**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	0.1311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7000e-004	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505
Total	0.1319	5.1500e-003	8.1400e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1505

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	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	2.0000e-004	1.1000e-004	1.3400e-003	0.0000	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2026**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	0.9614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6400e-003	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372
Total	0.9671	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372

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	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368
Total	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

3.5 Architectural Coating - 2026**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	0.9614					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6400e-003	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372
Total	0.9671	0.0378	0.0597	1.0000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003	0.0000	8.4257	8.4257	4.6000e-004	0.0000	8.4372

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	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368
Total	1.3700e-003	7.4000e-004	9.3100e-003	3.0000e-005	3.6800e-003	3.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	2.8352	2.8352	6.0000e-005	0.0000	2.8368

4.0 Operational Detail - Mobile

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3508	1.1309	4.0955	0.0161	1.7997	0.0119	1.8117	0.4818	0.0111	0.4928	0.0000	1,481.9375	1,481.9375	0.0663	0.0000	1,483.5949
Unmitigated	0.3583	1.1690	4.3369	0.0172	1.9331	0.0127	1.9458	0.5175	0.0118	0.5293	0.0000	1,584.6623	1,584.6623	0.0697	0.0000	1,586.4040

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,831.36	1,850.76	1649.00	5,175,175	4,818,088
Total	1,831.36	1,850.76	1,649.00	5,175,175	4,818,088

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	42.30	19.60	38.10	86	11	3

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.511000	0.223100	0.169000	0.059300	0.000800	0.001000	0.007400	0.017300	0.000000	0.004400	0.002500	0.001200	0.003000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	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	160.6681	160.6681	0.0161	3.3200e-003	162.0604
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.5663	223.5663	0.0224	4.6300e-003	225.5036
NaturalGas Mitigated	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336
NaturalGas Unmitigated	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	5.07218e+006	0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791
Total		0.0274	0.2337	0.0995	1.4900e-003		0.0189	0.0189		0.0189	0.0189	0.0000	270.6707	270.6707	5.1900e-003	4.9600e-003	272.2791

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	4.76768e+006	0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336
Total		0.0257	0.2197	0.0935	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.4217	254.4217	4.8800e-003	4.6600e-003	255.9336

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.69958e+006	223.5663	0.0224	4.6300e-003	225.5036
Total		223.5663	0.0224	4.6300e-003	225.5036

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.22142e+006	160.6681	0.0161	3.3200e-003	162.0604
Total		160.6681	0.0161	3.3200e-003	162.0604

6.0 Area Detail**6.1 Mitigation Measures Area**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507
Unmitigated	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507

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	0.1093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4900e-003	0.0726	0.0309	4.6000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	84.0422	84.0422	1.6100e-003	1.5400e-003	84.5417
Landscaping	0.0430	0.0166	1.4367	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3530	2.3530	2.2400e-003	0.0000	2.4090
Total	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

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	0.1093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.4900e-003	0.0726	0.0309	4.6000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	84.0422	84.0422	1.6100e-003	1.5400e-003	84.5417
Landscaping	0.0430	0.0166	1.4367	8.0000e-005		7.9900e-003	7.9900e-003		7.9900e-003	7.9900e-003	0.0000	2.3530	2.3530	2.2400e-003	0.0000	2.4090
Total	1.5245	0.0891	1.4676	5.4000e-004		0.0139	0.0139		0.0139	0.0139	0.0000	86.3952	86.3952	3.8500e-003	1.5400e-003	86.9507

7.0 Water Detail**7.1 Mitigation Measures Water**

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.6755	0.4131	9.9900e-003	29.9801
Unmitigated	16.6755	0.4131	9.9900e-003	29.9801

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	16.6755	0.4131	9.9900e-003	29.9801
Total		16.6755	0.4131	9.9900e-003	29.9801

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.6399 / 7.96862	16.6755	0.4131	9.9900e-003	29.9801
Total		16.6755	0.4131	9.9900e-003	29.9801

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.7202	0.8108	0.0000	33.9911
Unmitigated	54.8806	3.2434	0.0000	135.9645

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270.36	54.8806	3.2434	0.0000	135.9645
Total		54.8806	3.2434	0.0000	135.9645

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	67.59	13.7202	0.8108	0.0000	33.9911
Total		13.7202	0.8108	0.0000	33.9911

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

TSM 2020-05 Villa de Roma Subdivision - Madera County, Annual
