Notice of Determination 2021144 Appendix D

To:

☐ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☒ County Clerk
County of: Madera
Address: 200 West Fourth Street
Madera, CA 93637

From:
Public Agency: City of Madera
Address: 205 West Fourth Street
Madera, CA 93637
Contact: Gary Conte
Phone: 559.661.5430

Lead Agency (if different from above):
Address:
Contact:
Phone:

FILED
MADERA COUNTY
2021 DEC 21 A 9:08
REBECCA MARTINEZ
COUNTY CLERK

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse):

Project Title: Country Club Commercial Center

Project Applicant: Lion Builders, Inc., P.O. Box 78077, Bakersfield CA 93383

Project Location (include county): SE corner of Country Club Dr & Adell St, City of Madera, Madera Co.

Project Description:

Construction of a 12 station self-service gas station, 4,000 sf convenience store to include alcohol & tobacco sales, plus a 5,800 sf retail center of which 2,200 sf will be a coffee shop with a drive-through window. The remaining 3,600 sf of the 5,000 sf retail center is identified as future retail space. Access will provided by 2 new driveways along Adell Street and by an existing driveway south of the property along Country Club Drive.

This is to advise that the City of Madera has approved the above
(☒ Lead Agency or ☐ Responsible Agency)

described project on 12/14/21 (date) and has made the following determinations regarding the above described project.

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☐ were ☒ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☐ was ☒ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
www.madera.gov/home/departments/planning/

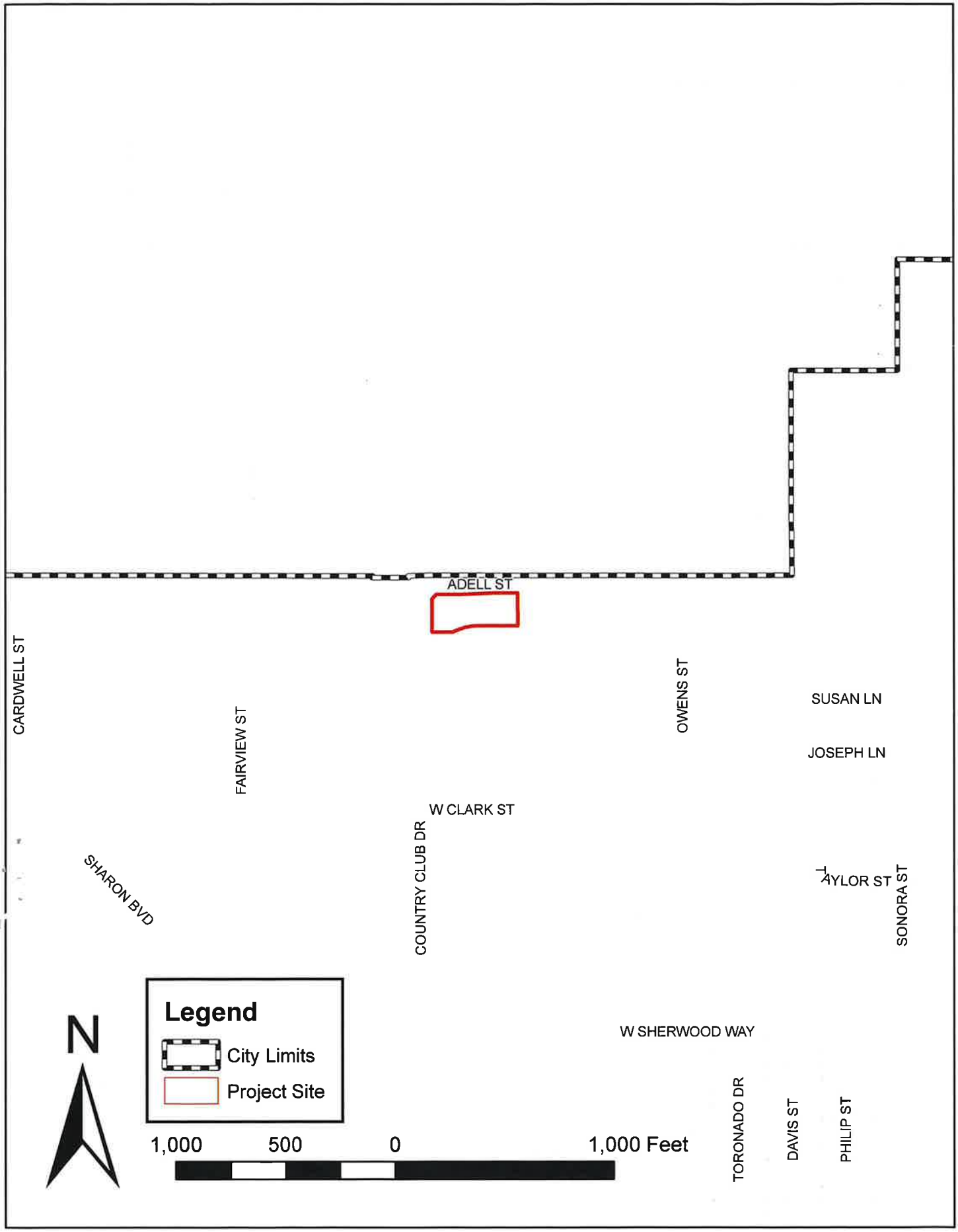
Signature (Public Agency): Title: Planning Manager

Date: 12/20/21 Date Received for filing at OPR:

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

Attachment 1 - Vicinity Map



AFFIDAVIT OF FILING AND POSTING BY THE COUNTY CLERK OF THE COUNTY OF MADERA

I declare under penalty of perjury that the document/notice attached hereto was received and posted on the date stamped thereon, as required by Section 21092.3 of the California Public Resources Code. Said notice remained posted for thirty (30) days from the filing date.

REBECCA MARTINEZ, County Clerk-Recorder

By: Jacquelyn Lua, Deputy

Date filed/posted: 12/21/21 Date Removed: 1/20/22

COUNTY CLERK-RECORDER MADERA COUNTY, CALIFORNIA

Country Club Commercial Center
Site Plan Review (SPR) 2019-25
Conditional Use Permit (CUP) 2019-19, 2019-20 & 2021-02

Initial Study / Negative Declaration

September 2021

Prepared by:

The City of MADERA

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

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List of Abbreviations and Acronyms

°C	Celsius
°F	Fahrenheit
AIA	Air Impact Assessment
AM	morning peak hour (related to traffic)
APN	Assessor's Parcel NumberCAAQS California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO2e	carbon dioxide emission
CRHR	California Register of Historical Resources
CUP	conditional use permit
DUI	driving under the influence
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
FRAP	Fire Resource Assessment Program
GCP	General Construction Permit
GHG	greenhouse gas
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
IS	Initial Study
IS/ND	Initial Study/Negative Declaration
LOS	Level of Service
MAX	Madera Area Express
MTCO2e	metric tons of carbon dioxide emissions
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NO_2	nitrogen dioxide
NOI	Notice of Intent
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OPR	California Office of Planning and Research
Pb	lead
PG&E	Pacific Gas and Electric Company
PM	afternoon peak hour (related to traffic)
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	fine particulate matter less than 2.5 microns in diameter

PPM	parts per million
PRD	Permit Registration Documents
Project	Country Club Commercial Center
SB	Senate Bill
SJVAB	San Joaquin Valley Air Basin
SO_2	sulfur dioxide
SPR	Site Plan Review
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Board
TACs	toxic air contaminants
TIA	Transportation Impact Analysis
TIM	traffic impact mitigation
TIS	Traffic Impact Study
TPY	tons per year
UBC	California Building Code
UCMP	University of California Museum of Paleontology
USEPA	U.S. Environmental Protection Agency
WWTP	wastewater treatment plant

Chapter 1 Introduction

The City of Madera has prepared this Initial Study/Negative Declaration (IS/ND) on behalf of Lion Builders, Inc. to address the environmental effects of the Country Club Commercial Center (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et.seq. The City of Madera is the CEQA lead agency for this proposed Project.

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

1.1 Regulatory Information

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

a. *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or*
b. *The IS identified potentially significant effects, but:*
    1. *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS 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. Introduction, provides an overview of the proposed Project and the CEQA process. Project Description, provides a detailed description of proposed Project components. Determination identifies the environmental factors potentially affected based on the analyses contained in this IS and includes with the Lead Agency's determination based upon those analyses. 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 California Emissions Estimator Model (CalEEMod) Output Files are provided as technical Appendix A at the end of this document. The traffic impact analysis prepared is provided in Appendix B as well.

Chapter 2 Project Description

2.1 Project Background

2.1.1 Project Title

Country Club Commercial Center
Site Plan Review (SPR) 2019-25
Conditional Use Permit (CUP) 2019-19, 20 & 2021-02

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

Derek Sylvester, Associate Planner
559.661.5436

2.1.4 Project Location

The proposed site of the Country Club Commercial Center is located on the Southeast corner of Country Club Drive and Adell Street, on Assessor's Parcel Number (APN) 003-250-026. The centroid of the Project area is 36° 58' 57.2" N, 120° 04' 24.2" W

2.1.5 General Plan Land Use and Zoning

The Project site is planned C (Commercial) and is zoned C-1 (Light Commercial).

2.1.6 Description of Project

Project Description

Lion Builders, Inc. (Applicant), proposes construction of a 4,000 square foot convenience store with alcohol and tobacco sales along with 12 multi-product fuel dispensers under a canopy. In addition, proposed on site would be a 5,800 square foot retail pad of which 2,200 square feet is identified as a coffee shop with a drive through window. The remaining 3,600 square feet is identified as future retail space. Total building coverage is approximately 21 percent of the Project site. Approximately 14,650 square feet (25 percent) of

the site would be landscaped. Approximately 56 percent of the Project site would be composed of pavement.

The proposed convenience store is anticipated to operate seven days a week, 24 hours a day and employ an estimated 10 to 15 employees over several shifts. Typical shifts will have 2 to 3 employees. The proposed retail building is also anticipated to operate seven days week between 9 a.m. to 11 p.m. and employ an estimated 25 to 35 employees over multiple shifts. Typical shifts will have 4 to 6 employees.

The Project site is a 1.37-acre vacant lot located on the southeast corner of Country Club Drive and Adell Street. The proposed site improvements will provide for 43 parking spaces, four of which will be handicap accessible parking spaces. Access to the site will be from two proposed driveways along Adell Street and from Country Club Drive via an existing driveway south of the property currently providing access to Tractor Supply. The existing Country Club Drive driveway will be limited to right-in, right-out movements with the completion of the proposed project. Proposed Project improvements include extending an existing raised median in Country Club Drive northward to Adell Street.

2.1.7 Site and Surrounding Land Uses and Setting

Environmental Setting

The 1.37-acre Project site is vacant land both designated and zoned for commercial use. Vegetation on site totals roughly 900 square feet. The site elevation is approximately 272 feet above sea level. Soils present on the Project site consist of clay and sandy loam which are moderate to poorly drained and have a "very high" runoff classification according to the United States Department of Agriculture, Natural Resources Conservation Service.

Surrounding Land Uses

The Project site is located directly north of an existing commercial development, Tractor Supply Company located at 1565 Country Club Dr. (see Figure 2-1, Regional Location). The Project site is within the City of Madera and is identified as Madera County APN 003-250-026 (see Figure 2-2, Project Site).

The City of Madera city limits form the northern boundary of the Project site. Residential areas are located to the north and west of the Project site, with additional commercial uses to the west, and remaining areas undeveloped.

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 (County)	Residential	Low Density Residential	Rural Agricultural
East	Vacant	Commercial	C-1 – Light Commercial
South	Commercial	Commercial	C-1 – Light Commercial
West	Commercial	Commercial	C-1 – Light Commercial

2.1.8 Other Approvals Required

The City of Madera has jurisdiction over the review and approval of this project. The City of Madera Planning Commission will be requested to act on the following:

- Adoption of Negative Declaration (environmental determination based on IS)
- Approval of Site Plan Review and Conditional Use Permits for site development

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

- San Joaquin Valley Air Pollution Control District
- Madera Irrigation District
- State of California Regional Water Quality Control Board

2.1.9 Consultation with California Native American Tribes (Assembly Bill 52 Compliance)

Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 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 written correspondence from any California Native American tribes pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed projects.

Figure 2-1 Regional Location

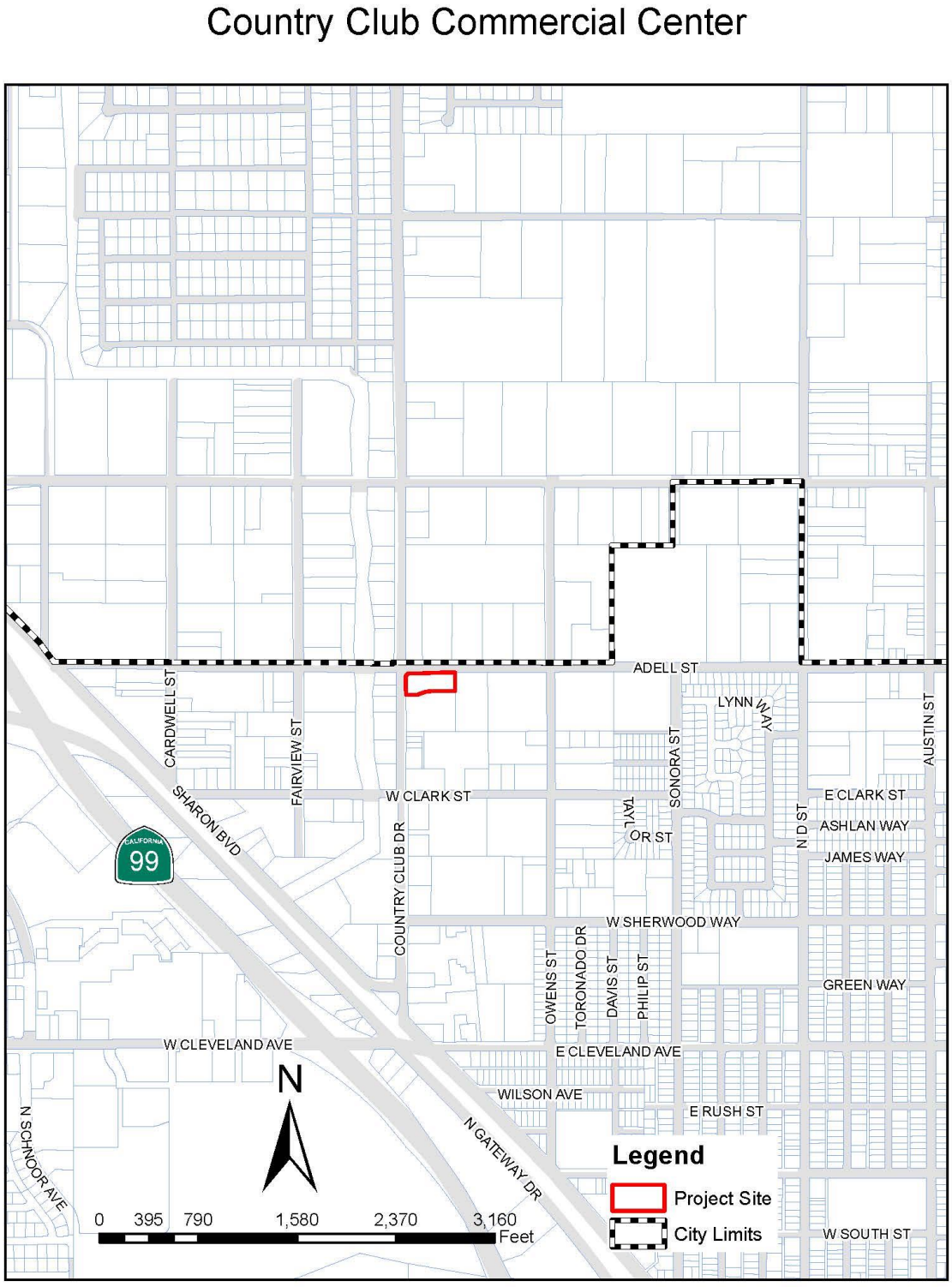


Figure 2-2 Project Site

Figure 2-3 Zone District Map

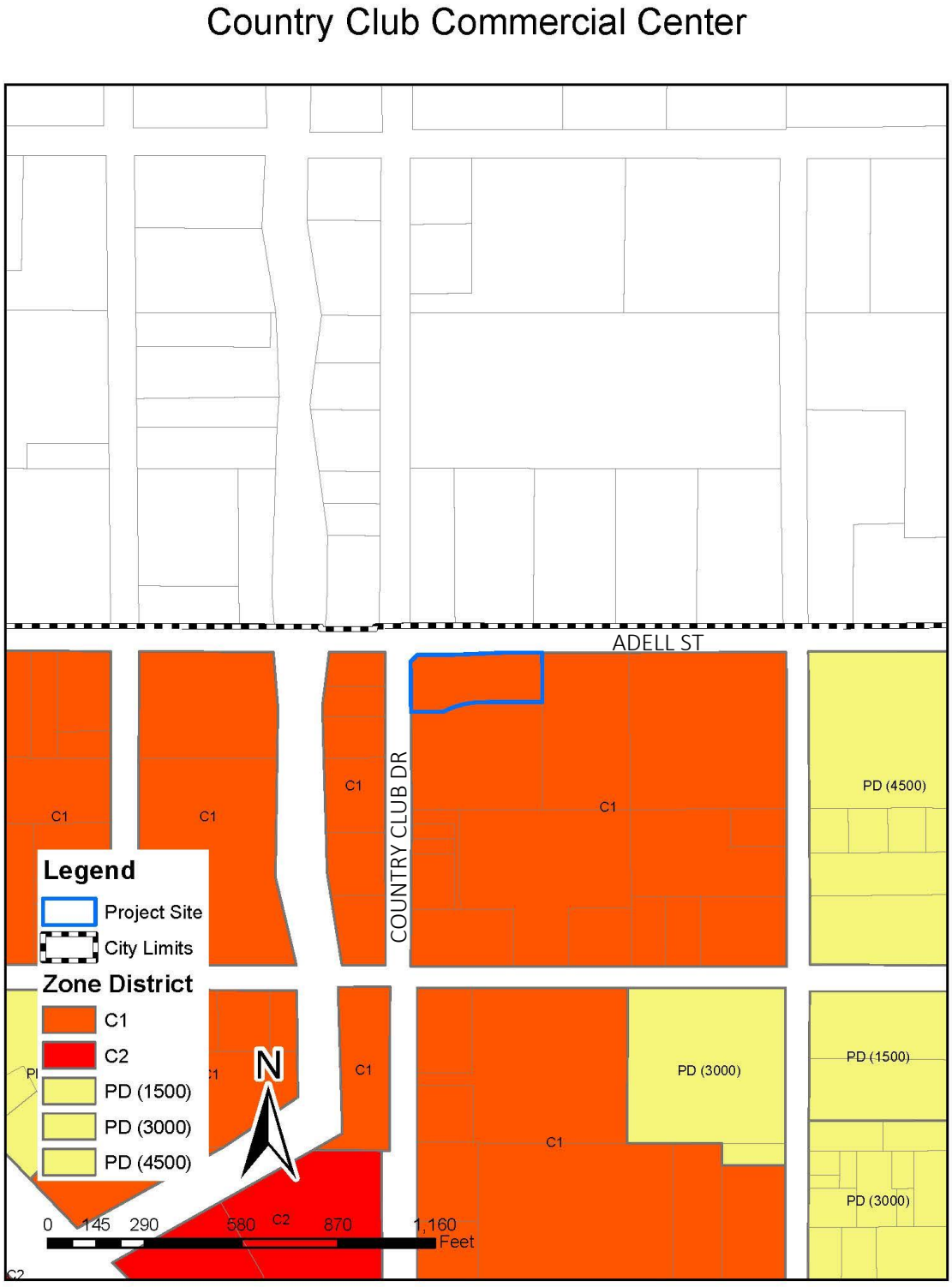


Figure 2-4 General Plan Land Use Designation Map

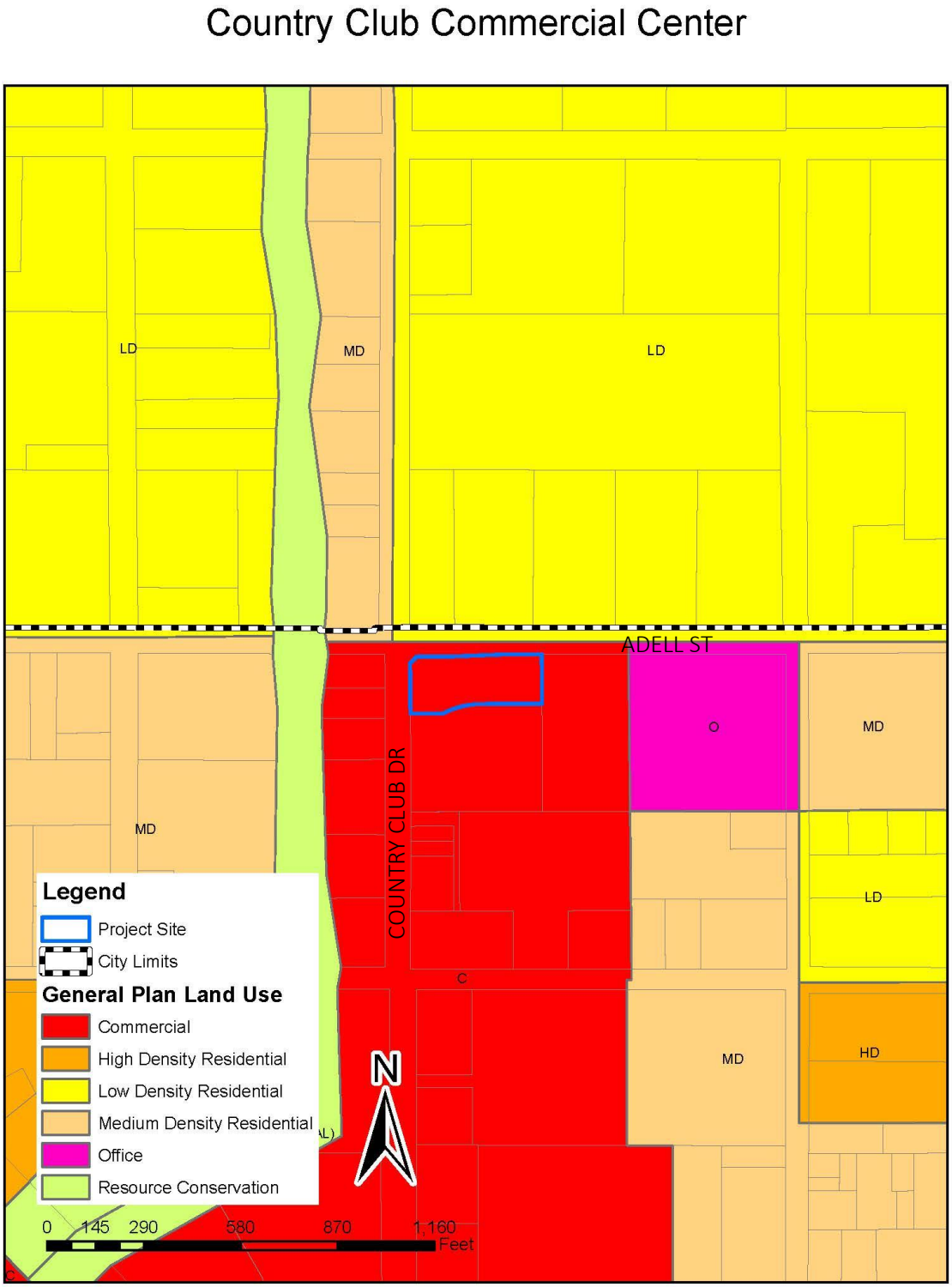
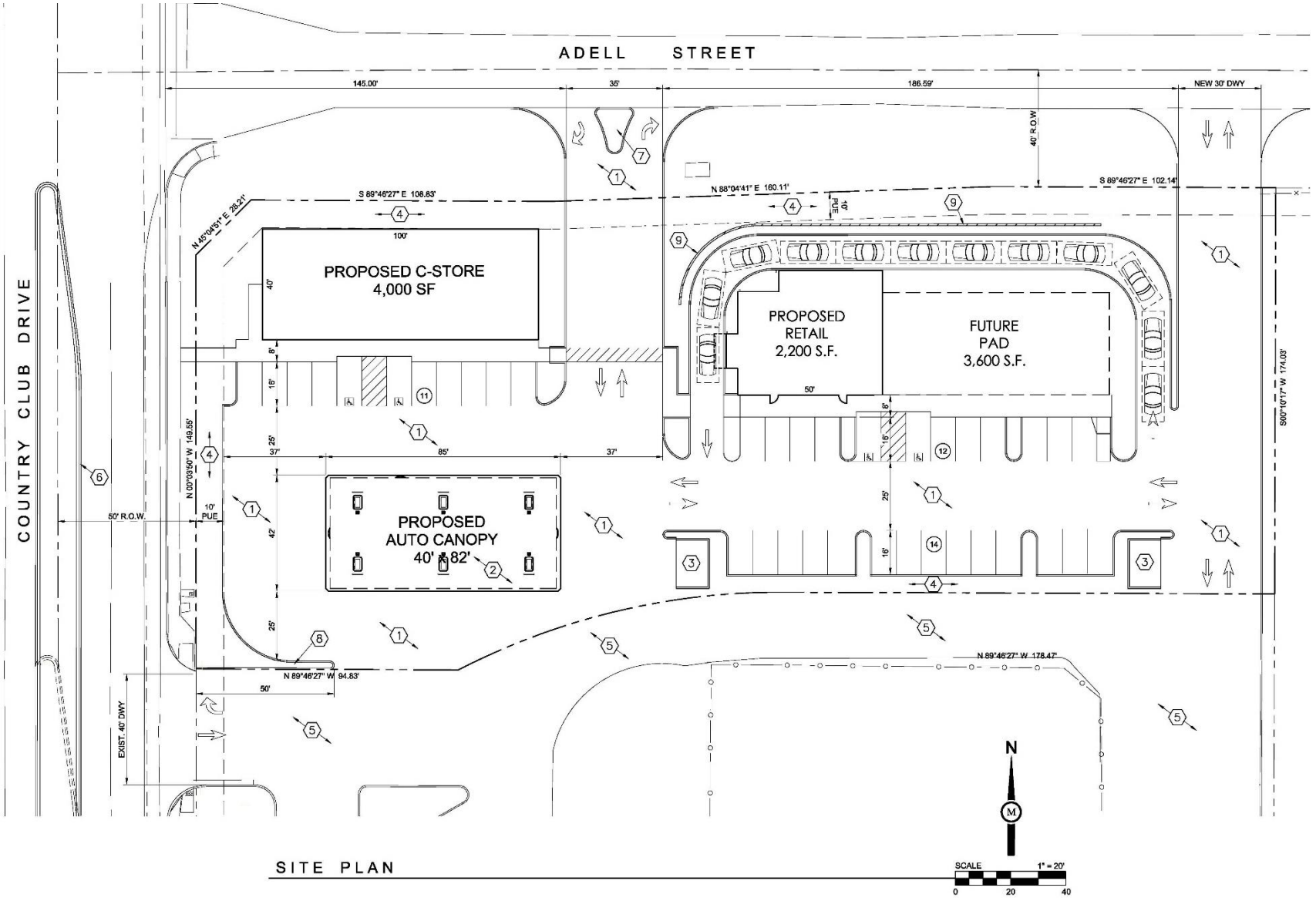


Figure 2-5 Propose Site Plan



Chapter 3 Determination

3.1 Environmental Factors Potentially Affected

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

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

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 evaluation (to be completed by the Lead Agency):

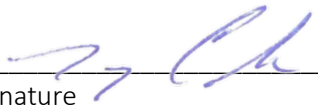
☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

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

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

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



Signature

September 29, 2021
Date

Gary Conte
Planning Manager

Chapter 4 Impact Analysis

4.1 Aesthetics

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

4.1.1 Impact Assessment

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

Less Than Significant Impact. 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. Possible impact and obstruction of views of the eastern mountain ranges seen from the San Joaquin Valley may occur. 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 a ***less than significant 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?

Less Than Significant Impact. The Project is not located along a State-designated Scenic Highway.[1] The nearest officially designated scenic highway is State Route 180 east of the unincorporated community of Minkler in Fresno County which is approximately 40 miles southeast of the Project site. Furthermore, there are no notable trees, rock outcroppings, or historical buildings on the project that would be affected. The Project with the addition of buildings on the site could potentially limit views of the mountain ranges to the east on a clear day; however, this impact is not substantially damaging to scenic resources in the area. Therefore, the Project would have a ***less than significant 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. The development of the site will not substantially degrade the existing public views of the site. Presently, the site is accumulating litter due to being undeveloped and along busy streets. All views from publicly accessible vantage points, such as sidewalks and parking lots, will not be degraded. The Project proposes improvements to the site; therefore, this 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 a commercial center with windows and reflective surfaces could lead to an increase in glare and lighting sources. With new development, window glare and nighttime lighting of the gas station and convenience store could potentially effect traffic and neighboring residential homes to the north and west. However, implementation of City standards for minimizing these impacts will be incorporated. Therefore, the Project would have a ***less than significant impact.***

[1] California Department of Transportation website, State Scenic Highways, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways accessed April 2021.

4.2 Agriculture and Forestry Resources

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

4.2.1 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 site is not agricultural in nature, nor identified as Farmland per the Farmland Mapping and Monitoring Program (FMMP)[2]. The Farmland Mapping and Monitoring Program identifies the project site as Vacant or Distributed Land. Therefore, there would be ***no impact.***

[2] California Department of Conservation, California Important Farmland Finder, https://gis.data.ca.gov/datasets/8ab78d6c403b402786cc231941d1b929 accessed April 2021.

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

No Impact. The Project is not agricultural land or subject to a Williamson Act contract, therefore the Project would have ***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. The Project site and surrounding properties are not 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 does not contain forest land or located adjacent to land designated as forest land. ***No impacts*** would occur.

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 will not involve changes to the existing environment which could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, ***no impacts*** would occur.

4.3 Air Quality

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

4.3.1 Impact Assessment

Thresholds of Significance

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

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

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

Long-Term Emissions of Particulate Matter (PM10): Operational impacts associated with a proposed project would be considered significant if the project generates emissions of suspended respirable particulate matter less than 10 microns in diameter (PM_{10})that exceed 15 TPY.

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

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

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

Exposure to toxic air contaminants (TACs) 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 a proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

Rule 8011 General Requirements: Fugitive Dust Emission Sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. The SJVACPD 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 NO_x by 33 percent of the project's operational baseline and 50 percent of the project's operational suspended PM_{10} 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 San Joaquin Valley Basin (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 (O_3), CO, nitrogen dioxide (NO_2), PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2) 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 California Air Resources Board (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 O_3, $PM_{2.5}$, and PM_{10}. Air quality trends for CO, NO_2, and SO_2 are not monitored at this air quality monitoring station. Madera County – Road 29½, north of Avenue 8 monitoring station monitors NO_2. The nearest station monitoring CO and SO_2 is in Fresno – 3727 North First Street. The 2017 to 2019 monitoring results from these stations indicate the State 1-hour O_3 standard was exceeded 3 times in 2017, 2 times in 2018, and an unknown number of times 2019. Additionally, the State 8-hour O_3 standard was exceeded 29 times in 2017, 17 times in 2018, and unknown number of times in 2019. Furthermore, the federal 8-hour O_3 standard was exceeded 27 times in 2017, 14 times in 2018 and 10 times in 2019. The State PM_{10} standard was exceeded 16 times in 2017 and 23 times in 2018. The CO, NO_2, and SO_2 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 (CCAA) divides the air districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category. The United States Environmental Protection Agency (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 O_3, and non-attainment for 8-hour O_3, PM_{10}, and for $PM_{2.5}$. The CARB has designated the Air Basin as attainment for NO_2, SO_2, 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 O_3, and non-attainment for $PM_{2.5}$. USEPA has designated the SJVAB as attainment / unclassified for CO, NO_2, SO_2 and no designation / classification for PM. There is no federal standard for 1-hour O_3.[4]

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 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 default and standard construction scheduling practices. All remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in Appendix A.

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

Less Than Significant Impact. The Project site is located within the SJVAB. Air quality conditions in the SJVAB are regulated by the SJVAPCD. The region is classified as a State and Federal non-attainment area for PM_{10} , and O_3. Specific thresholds set by the SJVAPCD were compared to both construction and operations outputs as calculated in CalEEMod. The results of the model are detailed below in Tables 4-1 and 4-2 and

[3] CARB. iADAM Air Quality Statistics. https://www.arb.ca.gov/adam accessed April 2021.
[4] CARB. Maps of State and Federal Area Designations. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations accessed April 2021.

attached to this document as Appendix A, show that project implementation would not create significant impacts per SJVAPCD thresholds. Therefore, the project would have a ***less than significant impact.***

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. Because the construction emissions are short-term in nature and below the SJVAPCD thresholds, and operational emissions are significantly lower than the published thresholds, the Project would not generate enough emissions to create a cumulatively considerable impact relative to total emissions in the air basin as a whole. Therefore, there would be a ***less than significant impact.***

Table 4-1: Unmitigated Short-term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Annual Proposed Project Emissions	0.1726	0.9776	0.8946	0.0017	0.0775	0.0563
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

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

Source	Annual Emissions (Tons/Year)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Annual Proposed Project Emissions	0.9861	8.1140	6.1538	0.0230	1.0545	0.2979
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

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

Source	Daily Emissions (pounds)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Construction – Summer	20.3699	17.4399	13.9601	0.0270	6.6312	3.6757
Construction – Winter	20.3685	17.4437	13.8804	0.0267	6.6312	3.6757
Operations – Summer	6.6924	44.6874	33.5018	0.1332	5.9642	1.6768
Operation – Winter	5.0802	44.2331	37.2349	0.1212	5.9703	1.6826
SJVAPCD Significance Thresholds	100	100	100	100	100	100
Exceed Thresholds?	No	No	No	No	No	No

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

Less Than Significant Impact. The nearest sensitive receptors to the Project site are large lot rural single-family homes abutting the Project approximately 150 feet to the north. Sherman Thomas Charter School and Ezequiel Tafoya Alvarado Academy are approximately one-quarter mile east along Adell Street and north along Country Club Drive. Because of less than significant construction and operational emissions per SJVAPCD guidelines, and the distance of sensitive receptors from the Project site, a ***less than significant impact*** would occur.

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 and the proposed use is not of a nature generally considered to be a significant odor emitter. 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?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4.4.1 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?

No Impact. The Project conforms to the City of Madera General Plan which included analysis of biological factors in the accompanying Environmental Impact Report (EIR). No threatened or endangered species in the Project area were identified in Figure 4.10-3 of the General Plan Draft EIR.[5] Impacts by this Project are not anticipated to exceed the impacts addressed in these documents; therefore, the Project would have ***no 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 or sensitive natural communities of special concern according to Figure 4.10-2 of the General Plan Draft EIR. 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. The Project site is void of any substantial vegetation and does not have the hydrology necessary to create wetlands. The General Plan Draft EIR designates the land as ruderal, which is roadside land disturbed by current and future development. 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.

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 include any features such as a river, creek, stream, or other water course.[6] The Project site does not include a wildlife corridor as it is relatively developed and as such would be a deterrent to wildlife in the area. Therefore, the Project will have a ***less than significant impact*** on the movement of any native resident or migratory fish or wildlife species.

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

No Impact. The Project site and surrounding area are not within or subject to an adopted or proposed policy or ordinance protecting any biological resources. There exist a few shrubs on site, none of which are designated in local policies or ordinances as protected. The Project would not conflict with any local policies or ordinances protecting biological resources. Therefore, the Project will have ***no impact*** on protection of biological resources in accordance with local policies.

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[5] City of Madera General Plan. https://www.madera.gov/wp-content/uploads/2016/04/City-of-Madera-GP-08-03-10-w-HE-Revised.pdf accessed April 2021.

[6] Natural Wetlands Inventory. https://www.fws.gov/wetlands/data/mapper.html accessed April 2021.

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?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

4.5.1 Impact Assessment

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

No Impact. The City of Madera notes in its General Plan that historical resources exist within the planning area; however, none have been identified on or adjacent to the Project site. There are three buildings constructed that are listed or eligible to be listed on the National Register of Historic Places within the City. None of these buildings are in the Project area. The General Plan EIR assesses the presence of paleontological resources and determined that there most likely does not exist fossil resources within the planning area. Therefore, the Project will have ***no impact***.

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

No Impact. The City of Madera General Plan and its EIR do not identify any regions within the City limits and planning area as having any significant archaeological value. The General Plan implements a policy that should any ground disturbance cause prehistoric, archaeologic, or fossil artifacts to surface, construction must stop, and professional site analysis be completed. With this policy, the Project will have ***a less than significant impact*** in causing adverse changes in significant archaeological resources.

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

No Impact. The Project would not disturb any human remains, including those interred outside of formal cemeteries, because there are no known human remains located in the affected territory. 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, all construction must stop in the event any human remains are uncovered and appropriate authorities notified. Therefore, the Project will have ***no impact.***

4.6 Energy

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

4.6.1 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. Project construction will result in energy consumption. Heavy equipment used to bring materials to and from the site, prepare the land, and tools used will consume petroleum products. The use of this energy is necessary for site development and will be utilized only when needed for construction progress. Construction would be temporary in nature and of a limited scale. Once operational, the Project will comply with Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards. As a result, the Project would not result in wasteful or inefficient use of energy resources and would thus 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. Both state and local authorities regulate energy use and consumption as noted above. These regulations at the state level intended primarily to reduce energy use and associated greenhouse gas (GHG) emissions. These regulations include, among others, Assembly Bill (AB) 1493 – Light-Duty Vehicle Standards, California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards, California Code of Regulations Title 24, Part 11 – California Green Building Standards. Because the project would comply with these measures during both construction and operations, the project will have ***a less than significant impact.***

4.7 Geology and Soils

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

4.7.1 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.

Less Than Significant Impact. No known faults with evidence of historic activity cut through the valley soils in the Project vicinity.[7] The major active faults and fault zones occur at some distance to the east, west and south of the Project site. The Ortigalita Fault is approximately 50 miles west with the San Andreas Fault another 20 miles further west. Due to the 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 vicinity is considered minimal. The California Uniform Building Code (UBC) 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 UBC and to adhere to all current earthquake construction requirements. Therefore, the Project would have ***a less than significant impact.***

a-ii) Strong seismic ground shaking?

Less Than Significant Impact. The Project site is not within an Alquist-Priolo Earthquake Fault Zone. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Ground shaking generally decreases with distance and increases with the depth of unconsolidated alluvial deposits. The most likely source of potential ground shaking is attributed to the San Andreas (approximately 85 miles west), Owens Valley (approximately 100 miles east), and the White Wolf faults. Based on this premise and considering the distance to the causative faults, the potential for ground motion in the vicinity of the Project site is such that a minimal risk can be assigned. 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 is present at the Project site. Therefore, the Project would result in ***a less than significant impact.***

a-iv) Landslides?

[7] California Department of Conservation. https://maps.conservation.ca.gov/cgs/DataViewer/ accessed April 2021.

Less Than Significant 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 ***a less than significant impact.***

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

No Impact. The Project would not result in substantial soil erosion or the loss of topsoil. Construction of urban uses would create changes in absorption rates, drainage patterns, and the rate and amount of surface runoff on the selected project site. Standard construction practices that comply with the City of Madera ordinances and regulations, the UBC, and professional engineering designs approved by the Madera Engineering Department will mitigate any potential impacts from future urban development, if any. In addition, the project would require a project-specific Storm Water Pollution Prevention Plan (SWPPP) as required by the California Construction General Permit that would ensure soil erosion is minimized during all construction activities. Therefore, the Project would result in ***no impact.***

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?

No Impact. Due to the relatively flat topography of the Project site and greater surrounding area, landslides are not considered a potentially significant geologic hazard. The Project site overall has a less than two percent slope. Therefore, the Project would result in ***no 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?

No Impact. The Project would not be located on expansive soil, as defined in Table 18-1-B of the UBC, and would therefore 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 ***no 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 septic tanks or alternative wastewater disposal systems. The Project will be tied into the City's existing sewer system; therefore, there would be ***no impact.***

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

No Impact. The Project is not in the vicinity of or located on any unique paleontological or unique geological resources. The City's General Plan EIR included a search of the University of California Museum of Paleontology (UCMP) database which returned no resources within the planning area. The City of Madera General Plan has implemented policies on what to do in the event any resources of the kind should appear. Therefore, the Project would have ***no impact.***

4.8 Greenhouse Gas Emissions

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

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 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 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 City of Madera General Plan 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.

4.8.1 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 which 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 in the air basin. Long-term emissions would be from vehicles refueling and using the drive through that is proposed on site and perpetual solid waste generated by the Project. According to the CalEEMod outputs found in Appendix A, the Project's 30-year amortized construction emissions added to the unmitigated annual carbon dioxide emissions (CO2e) operational emissions falls below the generally accepted significant threshold of 3,000 MTC02e/yr. Therefore, the Project would have a ***less than significant impact.***

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

Less Than Significant Impact. The Project consistent with all City of Madera General Plan policies, is required to incorporate water-efficient landscaping, and is required to make the necessary road improvements to improve traffic flow. The Project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions as the sum of both amortized construction and annual operational emissions would not exceed accepted thresholds of significance. 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?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

4.9.1 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 consists of construction of a fuel canopy with six fueling stations, which will total 12 fuel pumping stations. Underground Storage Tanks (UST) will be utilized to provide fuel for the pumping stations. Transportation of fuel to the site USTs will be by semi-truck operators who have training to handle hazardous materials. Although there exists a risk of occasional spill or accident in route to the site, proper management practices, safe handling, and following applicable rules and regulations for the management of hazardous materials will result in a ***less than significant impact*** on any potential hazard to the public or environment.

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. The trips generated by this new development have been addressed in a Traffic Impact Study (TIS) prepared by KD Anderson and Associates and dated September 29, 2020. While generating new trips and traffic, the probability of accidents is likely to increase. The TIS suggests mitigation measures and improvements to the site to handle increased traffic volumes, which are detailed below and designed increase safety and decrease accident probability. With these measures in place, accidents with semi-trucks transporting fuel to and from the site is further minimized. In addition, Project construction would involve standard construction materials delivered to the site and would have no unusual aspect that could increase the likelihood of accident conditions. Therefore, the Project would have a ***less than significant impact*** on creating a hazard to the public or environment through accident conditions.

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

Less Than Significant Impact. The Sherman Thomas Charter School is one school within one-quarter mile of the proposed Project. As noted above in the response to item (a), compliance with applicable laws and regulations would minimize hazards risks to a level of less than significant and no aspect of Project construction would involve types or quantities of hazardous materials beyond those typically associated with commercial construction. Therefore, the Project would result in a ***less than significant impact*** on school facilities.

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. According to GeoTracker, the Project would not 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, 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?

No Impact. The Project site is not located within the Airport Land Use Compatibility Zone map that was adopted with the City of Madera General Plan. The site is located approximately 1.5 miles east of the Madera Municipal Airport; therefore, it will have ***no impact*** in safety hazards or excessive noise for people residing or working in the Project area.

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

No Impact. The Project will conform to the policies and uses outlined and approved in the City of Madera General Plan. Emergency response to the Project site has been evaluated for the use and zoning proposed approved. On site safety and egress will follow the requirements of the UBC and any applicable standards. Conflicts with emergency evacuation plans typically result from events such as land closures during construction. The Project does not propose such lane closures during either construction or operations. Therefore, the project will have ***no 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. According to CalFire and their Fire Resource Assessment Program (FRAP) Fire Hazard Severity Zone (FHSZ) viewer, the Project site is not within an area of moderate, high, or very high fire risk for the Local Responsibility Area.[8] Therefore, there would be ***no impact.***

[8] Cal FIRE. Fire Hazard Severity Zones Map. https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/ accessed April 2021.

4.10 Hydrology and Water Quality

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

4.10.1 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 Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit (GCP). The CGP requires the submittal of Permit Registration Documents (PRDs) to the State Water Resources Board (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 on-site into the permeable ground adjacent to the Project site, 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 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 project will introduce impervious surfaces to the site that will interfere with groundwater recharge on the site area. Drainage systems proposed in the site design will carry runoff to designated recharge basins for the purpose of sustaining groundwater recharge. 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 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. Improvements of the Project site would increase the surface runoff due to construction of impervious surfaces such as the parking lot, sidewalk, and other construction factors. The Project would be required to comply with the GCP and additional documents such as preparation of a SWPPP required to monitor run-off and decrease likelihood of flooding on-site or off-site. Therefore, the potential impacts to flooding on- or off-site would be ***less then 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. Runoff incident to construction and once the site is fully developed will be addressed in the SWPPP. Anticipated amounts of runoff will not exceed the capacity of the current drainage system according to the City's Storm Drainage Master Plan. The Project will be required to comply with the City's ordinances, Master Plan, 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. The Project will be required to construct storm drain conveyance improvements to City of Madera standard, which takes into consideration the many factors of designing a storm drain system, including capacity to carry runoff from site to the designated drainage basin. The location of the Project site is generally flat with little variation in elevation. Construction will follow local design standards to ensure no flow of waters are impeded in the event of any flood, although the site is located within an area of minimal flooding hazard (Zone X). Therefore, the Project will have a ***less than significant impact.***

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

Less Than Significant Impact. The Project is in an unshaded Zone X flood zone according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) of the area[9]. Unshaded Zone X has a description of being outside of the 0.2 percent annual chance of flood. The Project will be designed knowing the risks of being in this flood zone, although very minimal risk of flood is expected. Construction

[9] FEMA Flood Map Service Center: Search by Address. FIRM 06039C1155E. September 2008. https://msc.fema.gov/portal/search?AddressQuery=Madera%2C%20CA#searchresultsanchor accessed May 2021.

of the site and storage of fuel in underground storage tanks designed accordingly will prevent risks of releasing of pollutants due to inundation, therefore there will be a ***less than significant 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 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 basin.[10] 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.***

[10] Madera Subbasin Coordination Committee. Madera Subbasin Sustainable Groundwater Management Act Join Groundwater Sustainability Plan. January 2020. https://sgma.water.ca.gov/portal/gsp/preview/21 accessed April 2021.

4.11 Land Use and Planning

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

4.11.1 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The Project does not divide any established or existing communities. The Project site will introduce a physical barrier: however, there are not communities existing surrounding the project to divide. Therefore, the Project would have ***no impact*** in potentially dividing an established community.

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

No Impact. The Project conforms with the approved City of Madera General Plan Land Use and Zoning Maps. Therefore, the Project will not conflict with any land use plan, policy, or regulation and have ***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?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

4.12.1 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, according to the Department of Conservations, Division of Mine Reclamation[11]. 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. As such, 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 City of Madera General Plan and its EIR do not identify any mineral resources of significant value in the Project area or surrounding areas. Considering these are the main policy documents which assessed City wide mineral resources, this Project would have ***no impact*** when using them as bases for evaluation.

[11] Mines Online. California Department of Conservation, Division of Mine Reclamation. 2016. https://maps.conservation.ca.gov/mol/index.html accessed May 2021.

4.13 Noise

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

4.13.1 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 temporarily increase ambient noise levels in the vicinity due to construction equipment use. The Project introduces design and functional elements to reduce noise during sensitive hours of the day. Pursuant to Section 3-11.02 of the City of Madera Municipal Ordinance, construction would be limited to 6 a.m. to 8 p.m. to reduce noise generation to adjacent properties. The proposed convenience store hours of operation is anticipated to be 24 a day, seven days a week. The proposed retail building hours of operation is also anticipated to be seven days a week from 9 a.m. to 11 p.m. With these conditions imposed on the Project, it would have a ***less than significant impact.***

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

Less Than Significant Impact. Construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. Construction activities can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures, and soil type. The generation of vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight damage at the highest levels. Given the level of construction for this Project, 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?

No Impact. The project is not located within the vicinity of a private airstrip or within the policy area of the Airport Land Use Compatibility Plan for County of Madera. The nearest airport, Madera Municipal Airport, is approximately 1.5 miles west from the Project site. Noise levels anticipated to affect the Project site from the Madera Municipal Airport are not a factor for concern in analysis, therefore the project would have ***no impact.***

4.14 Population and Housing

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

4.14.1 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. Although new employment would be created, the workforce would be expected to be comprised of existing residents of the City and County of Madera. The Project will include development of infrastructure and roadways to accommodate the Project site. Such improvements have been evaluated in the City of Madera General Plan Circulation and Infrastructure Element, and the improvements are existing and connecting to already built out infrastructure. As such, the Project would have a ***less than significant impact*** on population growth.

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

No Impact. No homes exist on the Project site; therefore, no housing would be impacted. Therefore, the project would have ***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?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

4.15.1 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 Project site is located within the City's fire service area and is within acceptable restrictions for fire response. The nearest fire station is Station #58 located approximately 1 ¼ mile west of the Project site. No additional need for fire facilities is required. The Project will be required to install fire hydrants and meet specifications for flow required to serve the area. With these conditions being imposed on the Project, it will have a less than significant impact to fire service facilities in the area and not warrant the need for a new or physically altered facility. It will maintain compliance with acceptable service rations therefore the Project would have a ***less than significant impact.***

Police Protection

Less Than Significant Impact. The Project site is currently served by the Madera Police Department and would continue to be served by the Madera Police Department. The Madera Police Department is located

approximately 1 ¾ miles southeast of the Project site. The proposal for alcohol sales could potentially increase the possibility of public intoxication and Driving Under the Influence (DUI) in the immediate area. However, the Madera Police Department encourages owners and the public to report these matters to the police, and consumption of alcohol on the premises will be prohibited. With this, the Project would not result in the need for new or altered services, or a substantial alteration to the patrol requirements from City's Police Department. Therefore, the Project would have a ***less than significant impact.***

Schools

Less Than Significant Impact. The Project would not likely result in the construction of new residences. It could potentially generate new employees to operate or maintain the Project, but the existing housing inventory of the City is adequate to provide residency for the potential impact. The project is likely to draw potential employees from the City and County of Madera residents. Therefore, the Project would have ***a less than significant impact*** on school facilities.

Parks

Less Than Significant Impact. The Project would not result in the construction of new residences and the addition of employees is minimal to operate and maintain the Project. The number of employees potentially generated would not warrant the need for additional park space, and future employees are likely to be residents within the existing City and County of Madera residential areas; therefore, the Project would have ***a less than significant impact*** on parks.

Landfills

Less Than Significant Impact. The waste generated by the Project and incidental increases in waste generation such as potential increases in population due to employees in very minimal. The Municipal Service Review for the City of Madera prepared for the Madera Local Agency Formation Commission in 2018 states that waste is diverted to the Fairmead Landfill by contract disposal services provided by Mid-Valley. The Municipal Service Review discusses that waste facilities and infrastructure necessities are discussed during contract negotiations for service, as to ensure capacity to serve the City. No new disposal or landfill facilities are currently needed to accommodate the Project or City, as discussed during contract negotiations with Mid Valley Disposal; therefore, the Project would have ***a less than significant impact***.

4.16 Recreation

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

4.16.1 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. The Project as proposed is surrounded generally by commercial uses. To the north of the Project site are private, large-lot rural residences located in Madera County, which do not have any neighborhood parks. The nearest neighborhood park is Rotary Park, approximately three-quarter of a mile south of the Project site located on Gateway Drive and Cleveland Avenue. Employment in the area would increase; however, it will likely consist of existing residents which would not drive the need to create new or expand upon existing parks. Therefore, it can be anticipated that there is a ***less than significant impact*** to park facilities or any incidental acceleration to deterioration of park facilities.

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

Less Than Significant Impact. The Project does not include recreational facilities or in any incidental way necessitate the requirement of construction or expansion of existing facilities. As stated above, the employees for this project are likely to come from existing residents within the City and County of Madera which will not drive the need for new or expanded recreation facilities. Therefore, the Project would have a ***less than significant impact*** or adverse physical effect on the environment regarding recreational facilities.

4.17 Transportation

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

A Traffic Impact Study (TIS) was prepared for the Project by KD Anderson and Associates, dated September 29, 2020 (Appendix B) to evaluate the potential traffic impacts with regard to conflicts with existing plans, ordinances, or policies. Existing a.m. and p.m. peak hour traffic volumes were counted in March 2020 while school was still in session. The objective of the TIS was to identify what effects the Project would have on the area roadway network and local intersections. The TIS parameters are consistent with the City's guidelines and addressed the following traffic scenarios:

1. Existing A.M. and P.M. Peak Hour Traffic Conditions;
2. Existing Plus Project A.M. and P.M. Peak Hour Traffic Conditions;
3. Existing Plus Approved Projects Traffic Conditions;
4. Existing Plus Approved Projects Plus Project Traffic Conditions;
5. Cumulative Year 2035 Conditions without Project; and
6. Cumulative Year 2035 Conditions with Project.

4.17.1 Environmental Setting

The TIS studied and evaluated one existing intersection (Country Club Drive / Adell Street) and one existing driveway (Country Club Drive / Tractor Supply Company Driveway). The Country Club Drive / Adell Street intersection is a minor leg stop controlled tee intersection. The northbound approach includes a through lane and a shared through lane and a shared through-right turn lane while the southbound approach includes a left lane and two through lanes. Marked crosswalks are not present in the intersection.

The County Club Drive / Tractor Supply Company Driveway is a stop controlled along the driveway approach. Northbound Country Club Drive includes a through lane and a shared through-right lane while the southbound approach includes a two-way left-turn-lane north of the driveway. The two-way left-turn-lane is used for left turning vehicles to enter the Project site. A raised median is present beginning at the north end of the driveway and extends about 260 feet south. While the raised median inhibits left turning

outbound Tractor Supply Company traffic, some motorists turn right and make an immediate U-turn directly north of the island.

Both the Country Club Drive / Adell Street and one existing driveway Country Club Drive / Tractor Supply Company Driveway currently operate within accepted City of Madera Level of Service (LOS) thresholds; however, the Country Club Drive / Adell Street intersection meets the peak hour signal warrant. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal.

The City of Madera uses LOS C as its minimum LOS criteria for intersections and roadway segments. As stated in the Circulation and Infrastructure Element of the City of Madera General Plan, LOS D is applicable to arterial roadways, or roadway segments with at-grade railroad crossings that were experiencing congestion exceeding LOS C during peak hour travel times as of the date the General Plan was adopted. LOS D is also applicable to intersections and roadway segments in the Downtown District as defined in the Land Use Element of the City's General Plan. For the purpose of this TIS, the minimum LOS criteria for intersections and roadway segments is LOS C.

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 is considered a local serving mixed use development that is expected to generate approximately 4,405 daily trips, 349 a.m. peak hour trips and 310 p.m. peak hour trips. After accounting for pass-by and internal trips, the Project is projected to generate 1,284 new daily trips, 76 new a.m. peak hour trips and 105 new p.m. peak hour trips. As noted in the Technical Advisory on Evaluating Transportation Impacts in CEQA, local serving retail projects are presumed to have a ***less than significant transportation impact***.

Pedestrian / Bicycle Circulation

In the project vicinity, sidewalks are present along Country Club Drive. No sidewalks are present along Adell Street between Country Club Drive and approximately 500 west of Sonora Street. Sonora Street is approximately one-half mile east of the Project site. In the vicinity of there are currently no marked bike lanes or bike paths.

As a condition of approval, the proposed Project would be required to widen and improve Adell Street to City Collector street standards along the frontage of the Project site. A sidewalk along the south side of Adell Street would be constructed as part of the required roadway improvements. The Adell Street improvements would also require the striping and signage for an east bound bike lane. Thus, the Project would not conflict with plans or policies of the General Plan germane to pedestrian or bicycle facilities or circulation. Therefore, the Project would result in a ***less than significant impact***.

Public Transit

Madera Area Express (MAX), managed by the City of Madera, provides fixed route services in the City of Madera. The routes operate Monday through Saturday. In addition to a fixed route services, the City offers a Madera Dial-A-Ride service, which is a demand-response system, that is available weekdays between 7 a.m. and 6:30 p.m., and Saturdays between 9 a.m. and 4 p.m. Sunday service is also available between 8:30 a.m. and 2:30 p.m. The closest stops are along Route 1, where the route travels through the Country Club

Drive / Sherwood Way intersection and the Adell Street / Sonora Street intersection. Both intersections are about one-half mile from the Project site and within walking distance of the proposed Project. Therefore, the Project would result in a ***less than significant impact.***

Roadways

Within the City, all major roadways are classified based on the City's General Plan Circulation Master Plan. Following is a brief description of the roadways located within the Project area:

- **Country Club Drive:** Country Club Drive is a north-south road within the City and extends north into the County of Madera. Within the Project vicinity, Country Club Drive currently varies between four-lane divided and undivided road. In the City's Circulation Master Plan, Country Club Drive is designated as an Arterial. Designated Arterials generally include up to four lanes, although total widths of six lanes may be appropriate in some locations. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.
- **Adell Street:** Adell Street is an east-west road within the City. Within the Project vicinity, Adell Street is currently an undivided two-lane rural road. In the City's Circulation Master Plan, Adell Street is designated as a Collector. Designated Collectors generally included up to four lanes. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

For each of the traffic scenarios analyzed, the proposed Project would conflict with the City of Madera General Plan LOS standards. The Project's General Plan LOS standard conflicts under each of the traffic scenario analyzed are identified below.

Existing Plus Project Conditions. Under this traffic scenario, all intersections except the Country Club Drive / Adell Street would operate within accepted City of Madera LOS thresholds. This intersection would operate at LOS E along Adell Street in the a.m. peak hour. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal. Under this condition, the Project would be required to install frontage half-street improvements and restripe Adell Street to include separate westbound left and right turn lanes at the Country Club Drive / Adell Street intersection. Implementing this improvement would improve the intersection to LOS C conditions. In addition to the street and intersection improvements, the Project shall be responsible for contributing its fair share to the cost of circulation improvements via the existing Citywide traffic impact mitigation (TIM) fee program.

Existing plus Approved Projects Conditions. Under this traffic scenario, all intersections would continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection would continue to meet the peak hour signal warrant.

Existing plus Approved Projects Plus Project Conditions. Under this traffic scenario, the Country Club Drive I Adell Street intersection would operate at LOS E, below the City's LOS threshold. As identified under the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right tum lanes at Country Club Drive intersection would be required to continue to maintain LOS C conditions at the Country Club Drive / Adell Street intersection. No additional Project improvements would be required.

In addition to the street and intersection improvements, the Project shall be responsible for contributing its fair share to the cost of circulation improvements via the existing Citywide TIM fee program.

Cumulative Year 2035 Conditions without Project. Under this traffic scenario, all intersections will continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection would continue to meet the peak hour signal warrant. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal.

Cumulative Year 2035 with Project. Under this traffic scenario, the Country Club Drive/ Adell Street intersection would operate at LOS E, below the City's LOS threshold. As identified in the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right tum lanes at the Country Club Drive intersection would be required to continue to maintain LOS C conditions at the Country Club Drive/ Adell Street intersection. No additional Project improvements would be required.

In addition to the street and intersection improvements, the Project shall be responsible for contributing its fair share to the cost of circulation improvements via the existing Citywide TIM fee program.

In conclusion, the Project will be required, as a condition of approval, to install half-street improvements and restripe Adell Street to include westbound left and right tum lanes at the Country Club Drive intersection. In addition, as a condition of approval, the Project will be required to contribute its fair share to the cost of circulation improvements via the existing Citywide TIM fee program. Implementation of the improvements identified in the TIS and described above would reduce the Project's roadway impacts to 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 California Office of Planning and Research (OPR) guidance has provided direction on the treatment of CEQA traffic analyses for projects in the *Technical Advisory on Evaluating Transportation Impacts in CEQA*. The Technical Advisory recommends analyzing the effect of projects over the area where the project substantially affects the travel pattern. Local serving retail projects, such as the proposed Project, are presumed to have a ***less than significant impact*** on transportation.

Furthermore, Vehicle Miles Traveled (VMT) were considered by the traffic engineering consulting firm. Although the City is yet to adopt thresholds for VMT impacts, the proposed Project would not have a significant transportation impact based on the OPR Technical Advisory. The proposed Project would have a lower VMT per service population and VMT per employee when compared to the regional average, and therefore would not result in a significant VMT impact. The Project would be compliant with the OPR VMT metrics.

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

Less than significant impact. The Project site would have three access point directly serving the area. One is existing along Country Club Drive and is located on the property south of the Project whose current tenant is Tractor Supply Co. The two proposed would be along Adell Street along the northern property line of the property. These access drives will be reviewed and approved in conformance to City street

specifications and sight distance standards to ensure the Project would not result in include sharp curves or dangerous intersections. Therefore, the Project would result in a ***less than significant impact.***

d) Would the project result in inadequate emergency access?

No impact. The Project has been reviewed by the Fire, Police, and Engineering Departments of the City to ensure the Project would provide adequate emergency access. Access drive standards, radius of curbs, and maneuverability throughout the site will be ensured through conditions imposed upon the project, therefore the project would have ***no impact*** on emergency access.

4.18 Tribal Cultural Resources

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

4.18.1 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. A previous sacred lands search completed for the City of Madera General Plan 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. 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). Therefore, the Project would have ***no impact*** on any tribal cultural resource that is listed in, or eligible for listing in, the CRHR or in a local register of historical resources.

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. Therefore, the Project would have a ***less than significant impact*** on the significance of a tribal cultural resource.

4.19 Utilities and Service Systems

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

4.19.1 Environmental Setting

The Project site is a vacant property planned for commercial uses in the City of Madera General Plan. The site of the Project was analyzed in different utility planning documents, including:

- 2014 Storm Drainage System Master Plan
- 2014 Water System Master Plan
- 2014 Sanitary Sewer System Master Plan
- 2015 Urban Water Management Plan
- 2020 Sanitary Sewer 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?

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 will condition the Project to require necessary improvements to wet and/or dry utilities to provide service to the project area and payment of impact fees to offset the Project's use of existing facilities and infrastructure. These conditions include requirements for the project to construct improvements to water, sewer, and storm drain conveyance facilities that will serve the property.

Pacific Gas and Electric Company (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 Project will be responsible for planning and installing wastewater collection and water delivery systems, as well as electrical and telecommunications service infrastructure. In addition, the Project will be responsible for the payment of development impact fees to off-set potential impacts to these facilities resulting in ***less than significant impacts***.

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 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 City of Madera Engineering Department for the construction of water, wastewater, and storm water drainage infrastructure; therefore, the impact would be ***less than significant.***

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 approximately 66,000, 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 Project does not include indirect generation of excessive solid waste through actions such as demolition of existing structures. The construction debris will be contained in designated bins and picked up by the City's contracted waste hauler or third party providing the roll-off

bins. The Fairmead Solid Waste Disposal Site is the nearest landfill to the City of Madera. While the landfill has been estimated to close in 2028, throughput has generally been less than maximum capacity and the landfill current has sufficient capacity to serve the project. The Project is not estimated 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 will be required to comply with all federal, state, and local solid waste reduction statutes. The State Agency Model Integrated Waste Management Act enacted in January 2000 requires at least 50 percent of solid waste diversion from disposal facilities after January 2004. The bills of lading for the Project are required to be provided to the City to monitor the solid waste generation of the Project and ensure Cal Green standards are being followed. With monitoring of solid waste generation in this regard, the Project would have a ***less than significant impact.***

4.20 Wildfire

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

4.20.1 Impact Assessment

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

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 Impacts. The Project is in an area of low fire risk and is not located in or near a State Responsibility Area or any land classified as a Very High Fire Hazard Severity Zone.[12,13] The nearest State Responsibility Area is approximately 10 miles northeast of the property with the nearest Very High Fire Hazard Severity Zone being 20 miles from the site. Since the Project is not subject to wildfire, it would have no impact on adopted emergency response or evacuation plans. The Project site is generally flat, therefore wildfire factors based on slope would not be applicable. The installed infrastructure would be necessary to serve the Project, and built as City standards dictate, taking into consideration the impacts on the environment. With the Project not being in a State Responsibility Area or a Very High Fire Hazard Severity Zone and relatively flat, there will not be risks associated with post-fire slope instability. Therefore, the Project would have ***no impact.***

[12] Cal FIRE. Fire Hazard Severity Zones in SRA, Madera County. https://osfm.fire.ca.gov/media/6700/fhszs_map20.pdf accessed April 2021.

[13] Cal FIRE. Fire Hazard Severity Zones in LRA, Madera County. https://osfm.fire.ca.gov/media/6703/fhszl06_1_map20.pdf accessed April 2021.

4.21 CEQA Mandatory Findings of Significance

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

4.21.1 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 City of Madera General Plan EIR does not identify any threatened or endangered species in the Project area according to Figure 4.10-3. Further, the Project site and its surroundings are absent of any riparian habitat or sensitive natural communities of special concern according to the General Plan EIR Figure 4.10-2. The site is designated as ruderal in the General Plan EIR, which is roadside land disturbed by current and future development meaning it does not possess substantial vegetation or hydrology to produce wetlands. There do not exist water features such as a stream, river, creek, or other watercourse that could be damaged by the development. In addition, there is no adopted policy or ordinance specifically protecting habitats or species within the project area. The analysis in this Initial Study results in a determination that the Project would have a ***less than significant***

impact on the environment. The environment, habitats, sustainability, and populations of any wildlife will not be affected as there are no significant communities present at this Project site.

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 could potentially drive the viability of future commercial projects in the area by increases in local traffic. As those projects come to the area, they will be evaluated for their impacts, as to the timing it is unknown. 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 Files

Country Club Commercial

Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market With Gas Pumps	7.28	1000sqft	0.17	7,280.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Regional Shopping Center	3.60	1000sqft	0.08	3,600.00	0
Parking Lot	46.89	1000sqft	1.08	46,887.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square feet and acreage calculations based on site plan provided by applicant. Parking lot land use includes paved surface area and landscape area. Fast Food establishment is a different land use than project being proposed which is a coffee/donut shop. Traffic impact analysis for project utilized different ITE land uses for calculations.

Construction Phase - No demolition required. Site is presently vacant.

Mobile Land Use Mitigation - Creation of jobs from new businesses including convenience store, drive-through coffee shop and future retail. The intersection of Country Club Drive and Adell Street will be improved with pedestrian access striping. The sidewalk along Adell Street will be constructed to City standards, improving pedestrian network and accessibility. Country Club Drive will have a traffic median installed. Nearest bus stop is 0.2 miles from the project site.

Energy Mitigation - https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Waste Mitigation -

Vehicle Trips - Daily trips based off of traffic impact analysis of traffic impacts derived from project.

Landscape Equipment -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	46,890.00	46,887.00
tblVehicleTrips	ST_TR	1,448.33	205.36
tblVehicleTrips	ST_TR	722.03	820.38
tblVehicleTrips	ST_TR	49.97	37.75
tblVehicleTrips	SU_TR	1,182.08	205.36
tblVehicleTrips	SU_TR	542.72	820.38
tblVehicleTrips	SU_TR	25.24	37.75
tblVehicleTrips	WD_TR	845.60	205.36
tblVehicleTrips	WD_TR	496.12	820.38
tblVehicleTrips	WD_TR	42.70	37.75

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	0.1270	0.9776	0.8946	1.7300e-003	0.0320	0.0455	0.0775	0.0125	0.0438	0.0563	0.0000	146.2107	146.2107	0.0234	0.0000	146.7954
2022	0.1726	0.5439	0.5590	1.0800e-003	0.0102	0.0241	0.0343	2.7800e-003	0.0232	0.0260	0.0000	90.8970	90.8970	0.0146	0.0000	91.2624
Maximum	**0.1726**	**0.9776**	**0.8946**	**1.7300e-003**	**0.0320**	**0.0455**	**0.0775**	**0.0125**	**0.0438**	**0.0563**	**0.0000**	**146.2107**	**146.2107**	**0.0234**	**0.0000**	**146.7954**

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	0.1270	0.9776	0.8946	1.7300e-003	0.0320	0.0455	0.0775	0.0125	0.0438	0.0563	0.0000	146.2106	146.2106	0.0234	0.0000	146.7953
2022	0.1726	0.5439	0.5590	1.0800e-003	0.0102	0.0241	0.0343	2.7800e-003	0.0232	0.0260	0.0000	90.8969	90.8969	0.0146	0.0000	91.2623
Maximum	**0.1726**	**0.9776**	**0.8946**	**1.7300e-003**	**0.0320**	**0.0455**	**0.0775**	**0.0125**	**0.0438**	**0.0563**	**0.0000**	**146.2106**	**146.2106**	**0.0234**	**0.0000**	**146.7953**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2021	9-30-2021	0.5491	0.5491
2	10-1-2021	12-31-2021	0.5502	0.5502
3	1-1-2022	3-31-2022	0.4941	0.4941
4	4-1-2022	6-30-2022	0.2249	0.2249
		Highest	0.5502	0.5502

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0642	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003
Energy	3.1200e-003	0.0284	0.0239	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	80.0264	80.0264	2.8100e-003	1.0300e-003	80.4026
Mobile	0.9187	8.0856	6.1294	0.0228	1.0331	0.0192	1.0523	0.2777	0.0181	0.2957	0.0000	2,122.0476	2,122.0476	0.2870	0.0000	2,129.2234
Waste						0.0000	0.0000		0.0000	0.0000	10.3525	0.0000	10.3525	0.6118	0.0000	25.6480
Water						0.0000	0.0000		0.0000	0.0000	0.4675	2.8661	3.3336	0.0482	1.1600e-003	4.8832
Total	**0.9861**	**8.1140**	**6.1538**	**0.0230**	**1.0331**	**0.0213**	**1.0545**	**0.2777**	**0.0202**	**0.2979**	**10.8201**	**2,204.9412**	**2,215.7613**	**0.9498**	**2.1900e-003**	**2,240.1584**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0642	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003
Energy	3.1200e-003	0.0284	0.0239	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	73.8868	73.8868	2.5400e-003	9.7000e-004	74.2389
Mobile	0.8959	7.8669	5.7016	0.0208	0.8833	0.0173	0.9006	0.2374	0.0163	0.2537	0.0000	1,934.5768	1,934.5768	0.2817	0.0000	1,941.6203
Waste						0.0000	0.0000		0.0000	0.0000	10.3525	0.0000	10.3525	0.6118	0.0000	25.6480
Water						0.0000	0.0000		0.0000	0.0000	0.4675	2.8661	3.3336	0.0482	1.1600e-003	4.8832
Total	**0.9633**	**7.8953**	**5.7260**	**0.0209**	**0.8833**	**0.0195**	**0.9028**	**0.2374**	**0.0184**	**0.2558**	**10.8201**	**2,011.3307**	**2,022.1508**	**0.9443**	**2.1300e-003**	**2,046.3916**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.31**	**2.69**	**6.95**	**8.84**	**14.50**	**8.86**	**14.39**	**14.50**	**8.80**	**14.11**	**0.00**	**8.78**	**8.74**	**0.59**	**2.74**	**8.65**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/2/2021	5	2	
2	Grading	Grading	7/3/2021	7/8/2021	5	4	
3	Building Construction	Building Construction	7/9/2021	4/14/2022	5	200	
4	Paving	Paving	4/15/2022	4/28/2022	5	10	
5	Architectural Coating	Architectural Coating	4/29/2022	5/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,620; Non-Residential Outdoor: 6,540; Striped Parking Area: 2,813 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	24.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	**1.5600e-003**	**0.0174**	**7.5600e-003**	**2.0000e-005**	**5.8000e-003**	**7.7000e-004**	**6.5700e-003**	**2.9500e-003**	**7.0000e-004**	**3.6500e-003**	**0.0000**	**1.5118**	**1.5118**	**4.9000e-004**	**0.0000**	**1.5241**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0569	0.0569	0.0000	0.0000	0.0569
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0569**	**0.0569**	**0.0000**	**0.0000**	**0.0569**

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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	**1.5600e-003**	**0.0174**	**7.5600e-003**	**2.0000e-005**	**5.8000e-003**	**7.7000e-004**	**6.5700e-003**	**2.9500e-003**	**7.0000e-004**	**3.6500e-003**	**0.0000**	**1.5118**	**1.5118**	**4.9000e-004**	**0.0000**	**1.5241**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0569	0.0569	0.0000	0.0000	0.0569
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0569**	**0.0569**	**0.0000**	**0.0000**	**0.0569**

3.3 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					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5800e-003	0.0287	0.0127	3.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	2.4767	2.4767	8.0000e-004	0.0000	2.4968
Total	**2.5800e-003**	**0.0287**	**0.0127**	**3.0000e-005**	**9.8300e-003**	**1.2800e-003**	**0.0111**	**5.0500e-003**	**1.1700e-003**	**6.2200e-003**	**0.0000**	**2.4767**	**2.4767**	**8.0000e-004**	**0.0000**	**2.4968**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1138	0.1138	0.0000	0.0000	0.1138
Total	**7.0000e-005**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1138**	**0.1138**	**0.0000**	**0.0000**	**0.1138**

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					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5800e-003	0.0287	0.0127	3.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	2.4767	2.4767	8.0000e-004	0.0000	2.4968
Total	**2.5800e-003**	**0.0287**	**0.0127**	**3.0000e-005**	**9.8300e-003**	**1.2800e-003**	**0.0111**	**5.0500e-003**	**1.1700e-003**	**6.2200e-003**	**0.0000**	**2.4767**	**2.4767**	**8.0000e-004**	**0.0000**	**2.4968**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1138	0.1138	0.0000	0.0000	0.1138
Total	**7.0000e-005**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1138**	**0.1138**	**0.0000**	**0.0000**	**0.1138**

3.4 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	0.1142	0.8591	0.8127	1.3900e-003		0.0431	0.0431		0.0416	0.0416	0.0000	114.3750	114.3750	0.0204	0.0000	114.8855
Total	**0.1142**	**0.8591**	**0.8127**	**1.3900e-003**		**0.0431**	**0.0431**		**0.0416**	**0.0416**	**0.0000**	**114.3750**	**114.3750**	**0.0204**	**0.0000**	**114.8855**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2800e-003	0.0684	0.0162	1.8000e-004	4.1700e-003	2.1000e-004	4.3700e-003	1.2000e-003	2.0000e-004	1.4000e-003	0.0000	16.9261	16.9261	1.3600e-003	0.0000	16.9600
Worker	6.3200e-003	4.0200e-003	0.0448	1.2000e-004	0.0120	9.0000e-005	0.0121	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.7504	10.7504	3.2000e-004	0.0000	10.7583
Total	**8.6000e-003**	**0.0724**	**0.0610**	**3.0000e-004**	**0.0162**	**3.0000e-004**	**0.0165**	**4.4000e-003**	**2.9000e-004**	**4.6900e-003**	**0.0000**	**27.6765**	**27.6765**	**1.6800e-003**	**0.0000**	**27.7183**

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	0.1142	0.8591	0.8127	1.3900e-003		0.0431	0.0431		0.0416	0.0416	0.0000	114.3749	114.3749	0.0204	0.0000	114.8853
Total	**0.1142**	**0.8591**	**0.8127**	**1.3900e-003**		**0.0431**	**0.0431**		**0.0416**	**0.0416**	**0.0000**	**114.3749**	**114.3749**	**0.0204**	**0.0000**	**114.8853**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2800e-003	0.0684	0.0162	1.8000e-004	4.1700e-003	2.1000e-004	4.3700e-003	1.2000e-003	2.0000e-004	1.4000e-003	0.0000	16.9261	16.9261	1.3600e-003	0.0000	16.9600
Worker	6.3200e-003	4.0200e-003	0.0448	1.2000e-004	0.0120	9.0000e-005	0.0121	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.7504	10.7504	3.2000e-004	0.0000	10.7583
Total	**8.6000e-003**	**0.0724**	**0.0610**	**3.0000e-004**	**0.0162**	**3.0000e-004**	**0.0165**	**4.4000e-003**	**2.9000e-004**	**4.6900e-003**	**0.0000**	**27.6765**	**27.6765**	**1.6800e-003**	**0.0000**	**27.7183**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0610	0.4626	0.4709	8.2000e-004		0.0218	0.0218		0.0211	0.0211	0.0000	67.1835	67.1835	0.0117	0.0000	67.4760
Total	**0.0610**	**0.4626**	**0.4709**	**8.2000e-004**		**0.0218**	**0.0218**		**0.0211**	**0.0211**	**0.0000**	**67.1835**	**67.1835**	**0.0117**	**0.0000**	**67.4760**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0380	8.5600e-003	1.0000e-004	2.4500e-003	1.1000e-004	2.5500e-003	7.1000e-004	1.0000e-004	8.1000e-004	0.0000	9.8498	9.8498	7.8000e-004	0.0000	9.8693
Worker	3.4300e-003	2.1100e-003	0.0240	7.0000e-005	7.0700e-003	5.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.0855	6.0855	1.7000e-004	0.0000	6.0897
Total	**4.6600e-003**	**0.0401**	**0.0326**	**1.7000e-004**	**9.5200e-003**	**1.6000e-004**	**9.6800e-003**	**2.5900e-003**	**1.5000e-004**	**2.7400e-003**	**0.0000**	**15.9353**	**15.9353**	**9.5000e-004**	**0.0000**	**15.9590**

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	0.0610	0.4626	0.4709	8.2000e-004		0.0218	0.0218		0.0211	0.0211	0.0000	67.1834	67.1834	0.0117	0.0000	67.4759
Total	**0.0610**	**0.4626**	**0.4709**	**8.2000e-004**		**0.0218**	**0.0218**		**0.0211**	**0.0211**	**0.0000**	**67.1834**	**67.1834**	**0.0117**	**0.0000**	**67.4759**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0380	8.5600e-003	1.0000e-004	2.4500e-003	1.1000e-004	2.5500e-003	7.1000e-004	1.0000e-004	8.1000e-004	0.0000	9.8498	9.8498	7.8000e-004	0.0000	9.8693
Worker	3.4300e-003	2.1100e-003	0.0240	7.0000e-005	7.0700e-003	5.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.0855	6.0855	1.7000e-004	0.0000	6.0897
Total	**4.6600e-003**	**0.0401**	**0.0326**	**1.7000e-004**	**9.5200e-003**	**1.6000e-004**	**9.6800e-003**	**2.5900e-003**	**1.5000e-004**	**2.7400e-003**	**0.0000**	**15.9353**	**15.9353**	**9.5000e-004**	**0.0000**	**15.9590**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	1.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.8500e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.5000e-004	1.7600e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4455	0.4455	1.0000e-005	0.0000	0.4458
Total	**2.5000e-004**	**1.5000e-004**	**1.7600e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4455**	**0.4455**	**1.0000e-005**	**0.0000**	**0.4458**

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9314
Paving	1.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.8500e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9314**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.5000e-004	1.7600e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4455	0.4455	1.0000e-005	0.0000	0.4458
Total	**2.5000e-004**	**1.5000e-004**	**1.7600e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4455**	**0.4455**	**1.0000e-005**	**0.0000**	**0.4458**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1017**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	6.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1713	0.1713	0.0000	0.0000	0.1714
Total	**1.0000e-004**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1713**	**0.1713**	**0.0000**	**0.0000**	**0.1714**

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	0.1007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1017**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	6.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1713	0.1713	0.0000	0.0000	0.1714
Total	**1.0000e-004**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1713**	**0.1713**	**0.0000**	**0.0000**	**0.1714**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	0.8959	7.8669	5.7016	0.0208	0.8833	0.0173	0.9006	0.2374	0.0163	0.2537	0.0000	1,934.5768	1,934.5768	0.2817	0.0000	1,941.6203
Unmitigated	0.9187	8.0856	6.1294	0.0228	1.0331	0.0192	1.0523	0.2777	0.0181	0.2957	0.0000	2,122.0476	2,122.0476	0.2870	0.0000	2,129.2234

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,495.02	1,495.02	1495.02	801,935	685,655
Fast Food Restaurant with Drive Thru	1,804.84	1,804.84	1804.84	1,686,303	1,441,789
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	135.90	135.90	135.90	238,274	203,724
Total	3,435.76	3,435.76	3,435.76	2,726,513	2,331,169

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Fast Food Restaurant with Drive Thru	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Regional Shopping Center	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Parking Lot	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive 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	42.9710	42.9710	1.9400e-003	4.0000e-004	43.1394
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	49.1106	49.1106	2.2200e-003	4.6000e-004	49.3031
NaturalGas Mitigated	3.1200e-003	0.0284	0.0239	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	30.9158	30.9158	5.9000e-004	5.7000e-004	31.0995
NaturalGas Unmitigated	3.1200e-003	0.0284	0.0239	1.7000e-004		2.1600e-003	2.1600e-003		2.1600e-003	2.1600e-003	0.0000	30.9158	30.9158	5.9000e-004	5.7000e-004	31.0995

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					
Convenience Market With Gas Pumps	77896	4.2000e-004	3.8200e-003	3.2100e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	4.1568	4.1568	8.0000e-005	8.0000e-005	4.1815
Fast Food Restaurant with Drive Thru	462924	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.7034	24.7034	4.7000e-004	4.5000e-004	24.8502
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	38520	2.1000e-004	1.8900e-003	1.5900e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0556	2.0556	4.0000e-005	4.0000e-005	2.0678
Total		**3.1300e-003**	**0.0284**	**0.0239**	**1.7000e-004**		**2.1500e-003**	**2.1500e-003**		**2.1500e-003**	**2.1500e-003**	**0.0000**	**30.9158**	**30.9158**	**5.9000e-004**	**5.7000e-004**	**31.0995**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	77896	4.2000e-004	3.8200e-003	3.2100e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	4.1568	4.1568	8.0000e-005	8.0000e-005	4.1815
Fast Food Restaurant with Drive Thru	462924	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.7034	24.7034	4.7000e-004	4.5000e-004	24.8502
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	38520	2.1000e-004	1.8900e-003	1.5900e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0556	2.0556	4.0000e-005	4.0000e-005	2.0678
Total		**3.1300e-003**	**0.0284**	**0.0239**	**1.7000e-004**		**2.1500e-003**	**2.1500e-003**		**2.1500e-003**	**2.1500e-003**	**0.0000**	**30.9158**	**30.9158**	**5.9000e-004**	**5.7000e-004**	**31.0995**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	59332	17.2604	7.8000e-004	1.6000e-004	17.3280
Fast Food Restaurant with Drive Thru	63734	18.5410	8.4000e-004	1.7000e-004	18.6136
Parking Lot	16410.5	4.7740	2.2000e-004	4.0000e-005	4.7927
Regional Shopping Center	29340	8.5353	3.9000e-004	8.0000e-005	8.5688
Total		**49.1106**	**2.2300e-003**	**4.5000e-004**	**49.3031**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	51229.4	14.9032	6.7000e-004	1.4000e-004	14.9616
Fast Food Restaurant with Drive Thru	59661.8	17.3563	7.8000e-004	1.6000e-004	17.4243
Parking Lot	11487.3	3.3418	1.5000e-004	3.0000e-005	3.3549
Regional Shopping Center	25333.2	7.3697	3.3000e-004	7.0000e-005	7.3986
Total		**42.9710**	**1.9300e-003**	**4.0000e-004**	**43.1394**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0642	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003
Unmitigated	0.0642	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003

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	0.0101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0541					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003
Total	**0.0642**	**1.0000e-005**	**5.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0700e-003**	**1.0700e-003**	**0.0000**	**0.0000**	**1.1400e-003**

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	0.0101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0541					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1400e-003
Total	**0.0642**	**1.0000e-005**	**5.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0700e-003**	**1.0700e-003**	**0.0000**	**0.0000**	**1.1400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3336	0.0482	1.1600e-003	4.8832
Unmitigated	3.3336	0.0482	1.1600e-003	4.8832

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.539248 / 0.330507	1.3564	0.0176	4.3000e-004	1.9240
Fast Food Restaurant with Drive Thru	0.667774 / 0.0426239	1.3064	0.0218	5.2000e-004	2.0078
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.266661 / 0.163437	0.6708	8.7200e-003	2.1000e-004	0.9514
Total		**3.3336**	**0.0482**	**1.1600e-003**	**4.8832**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.539248 / 0.330507	1.3564	0.0176	4.3000e-004	1.9240
Fast Food Restaurant with Drive Thru	0.667774 / 0.0426239	1.3064	0.0218	5.2000e-004	2.0078
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.266661 / 0.163437	0.6708	8.7200e-003	2.1000e-004	0.9514
Total		**3.3336**	**0.0482**	**1.1600e-003**	**4.8832**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.3525	0.6118	0.0000	25.6480
Unmitigated	10.3525	0.6118	0.0000	25.6480

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	21.88	4.4414	0.2625	0.0000	11.0035
Fast Food Restaurant with Drive Thru	25.34	5.1438	0.3040	0.0000	12.7435
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.78	0.7673	0.0454	0.0000	1.9010
Total		**10.3525**	**0.6118**	**0.0000**	**25.6480**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	21.88	4.4414	0.2625	0.0000	11.0035
Fast Food Restaurant with Drive Thru	25.34	5.1438	0.3040	0.0000	12.7435
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.78	0.7673	0.0454	0.0000	1.9010
Total		**10.3525**	**0.6118**	**0.0000**	**25.6480**

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

Country Club Commercial

Madera County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market With Gas Pumps	7.28	1000sqft	0.17	7,280.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Regional Shopping Center	3.60	1000sqft	0.08	3,600.00	0
Parking Lot	46.89	1000sqft	1.08	46,887.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square feet and acreage calculations based on site plan provided by applicant. Parking lot land use includes paved surface area and landscape area. Fast Food establishment is a different land use than project being proposed which is a coffee/donut shop. Traffic impact analysis for project utilized different ITE land uses for calculations.

Construction Phase - No demolition required. Site is presently vacant.

Mobile Land Use Mitigation - Creation of jobs from new businesses including convenience store, drive-through coffee shop and future retail. The intersection of Country Club Drive and Adell Street will be improved with pedestrian access striping. The sidewalk along Adell Street will be constructed to City standards, improving pedestrian network and accessibility. Country Club Drive will have a traffic median installed. Nearest bus stop is 0.2 miles from the project site.

Energy Mitigation - https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Waste Mitigation -

Vehicle Trips - Daily trips based off of traffic impact analysis of traffic impacts derived from project.

Landscape Equipment -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	46,890.00	46,887.00
tblVehicleTrips	ST_TR	1,448.33	205.36
tblVehicleTrips	ST_TR	722.03	820.38
tblVehicleTrips	ST_TR	49.97	37.75
tblVehicleTrips	SU_TR	1,182.08	205.36
tblVehicleTrips	SU_TR	542.72	820.38
tblVehicleTrips	SU_TR	25.24	37.75
tblVehicleTrips	WD_TR	845.60	205.36
tblVehicleTrips	WD_TR	496.12	820.38
tblVehicleTrips	WD_TR	42.70	37.75

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	1.9619	17.4399	13.9601	0.0270	5.8653	0.7659	6.6312	2.9711	0.7046	3.6757	0.0000	2,507.0037	2,507.0037	0.5410	0.0000	2,516.6517
2022	20.3699	13.5716	13.6925	0.0269	0.2650	0.5931	0.8581	0.0718	0.5729	0.6447	0.0000	2,497.1716	2,497.1716	0.4143	0.0000	2,506.5750
Maximum	**20.3699**	**17.4399**	**13.9601**	**0.0270**	**5.8653**	**0.7659**	**6.6312**	**2.9711**	**0.7046**	**3.6757**	**0.0000**	**2,507.0037**	**2,507.0037**	**0.5410**	**0.0000**	**2,516.6517**

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	1.9619	17.4399	13.9601	0.0270	5.8653	0.7659	6.6312	2.9711	0.7046	3.6757	0.0000	2,507.0037	2,507.0037	0.5410	0.0000	2,516.6517
2022	20.3699	13.5716	13.6925	0.0269	0.2650	0.5931	0.8581	0.0718	0.5729	0.6447	0.0000	2,497.1716	2,497.1716	0.4143	0.0000	2,506.5750
Maximum	**20.3699**	**17.4399**	**13.9601**	**0.0270**	**5.8653**	**0.7659**	**6.6312**	**2.9711**	**0.7046**	**3.6757**	**0.0000**	**2,507.0037**	**2,507.0037**	**0.5410**	**0.0000**	**2,516.6517**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Energy	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
Mobile	6.3230	44.5318	33.3650	0.1322	5.8494	0.1030	5.9524	1.5680	0.0969	1.6649		13,567.1840	13,567.1840	1.6577		13,608.6262
Total	**6.6924**	**44.6874**	**33.5018**	**0.1332**	**5.8494**	**0.1148**	**5.9642**	**1.5680**	**0.1087**	**1.6768**		**13,753.9304**	**13,753.9304**	**1.6613**	**3.4200e-003**	**13,796.4832**

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	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Energy	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
Mobile	6.1940	43.3915	30.6139	0.1204	5.0013	0.0926	5.0938	1.3407	0.0871	1.4278		12,368.1772	12,368.1772	1.6237		12,408.7699
Total	**6.5634**	**43.5472**	**30.7507**	**0.1214**	**5.0013**	**0.1044**	**5.1057**	**1.3407**	**0.0990**	**1.4396**		**12,554.9236**	**12,554.9236**	**1.6273**	**3.4200e-003**	**12,596.6268**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.93**	**2.55**	**8.21**	**8.85**	**14.50**	**9.05**	**14.40**	**14.50**	**8.99**	**14.14**	**0.00**	**8.72**	**8.72**	**2.05**	**0.00**	**8.70**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/2/2021	5	2	
2	Grading	Grading	7/3/2021	7/8/2021	5	4	
3	Building Construction	Building Construction	7/9/2021	4/14/2022	5	200	
4	Paving	Paving	4/15/2022	4/28/2022	5	10	
5	Architectural Coating	Architectural Coating	4/29/2022	5/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,620; Non-Residential Outdoor: 6,540; Striped Parking Area: 2,813 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	24.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.7996**	**0.7654**	**6.5650**	**2.9537**	**0.7041**	**3.6578**		**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0379	0.0196	0.2736	6.9000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		68.5379	68.5379	2.0500e-003		68.5891
Total	**0.0379**	**0.0196**	**0.2736**	**6.9000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**68.5379**	**68.5379**	**2.0500e-003**		**68.5891**

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.7996**	**0.7654**	**6.5650**	**2.9537**	**0.7041**	**3.6578**	**0.0000**	**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0379	0.0196	0.2736	6.9000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		68.5379	68.5379	2.0500e-003		68.5891
Total	**0.0379**	**0.0196**	**0.2736**	**6.9000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**68.5379**	**68.5379**	**2.0500e-003**		**68.5891**

3.3 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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0379	0.0196	0.2736	6.9000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		68.5379	68.5379	2.0500e-003		68.5891
Total	**0.0379**	**0.0196**	**0.2736**	**6.9000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**68.5379**	**68.5379**	**2.0500e-003**		**68.5891**

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0379	0.0196	0.2736	6.9000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		68.5379	68.5379	2.0500e-003		68.5891
Total	**0.0379**	**0.0196**	**0.2736**	**6.9000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**68.5379**	**68.5379**	**2.0500e-003**		**68.5891**

3.4 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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0357	1.0725	0.2398	2.8700e-003	0.0678	3.2500e-003	0.0711	0.0195	3.1100e-003	0.0226		300.1702	300.1702	0.0225		300.7328
Worker	0.1137	0.0589	0.8209	2.0700e-003	0.1972	1.4900e-003	0.1987	0.0523	1.3700e-003	0.0537		205.6136	205.6136	6.1400e-003		205.7672
Total	**0.1494**	**1.1314**	**1.0607**	**4.9400e-003**	**0.2650**	**4.7400e-003**	**0.2697**	**0.0718**	**4.4800e-003**	**0.0763**		**505.7837**	**505.7837**	**0.0286**		**506.5000**

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0357	1.0725	0.2398	2.8700e-003	0.0678	3.2500e-003	0.0711	0.0195	3.1100e-003	0.0226		300.1702	300.1702	0.0225		300.7328
Worker	0.1137	0.0589	0.8209	2.0700e-003	0.1972	1.4900e-003	0.1987	0.0523	1.3700e-003	0.0537		205.6136	205.6136	6.1400e-003		205.7672
Total	**0.1494**	**1.1314**	**1.0607**	**4.9400e-003**	**0.2650**	**4.7400e-003**	**0.2697**	**0.0718**	**4.4800e-003**	**0.0763**		**505.7837**	**505.7837**	**0.0286**		**506.5000**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0327	1.0159	0.2153	2.8400e-003	0.0678	2.8200e-003	0.0706	0.0195	2.7000e-003	0.0222		297.4505	297.4505	0.0220		298.0016
Worker	0.1052	0.0526	0.7508	1.9900e-003	0.1972	1.4400e-003	0.1986	0.0523	1.3300e-003	0.0536		198.1783	198.1783	5.4800e-003		198.3154
Total	**0.1379**	**1.0685**	**0.9661**	**4.8300e-003**	**0.2650**	**4.2600e-003**	**0.2692**	**0.0718**	**4.0300e-003**	**0.0758**		**495.6287**	**495.6287**	**0.0275**		**496.3170**

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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0327	1.0159	0.2153	2.8400e-003	0.0678	2.8200e-003	0.0706	0.0195	2.7000e-003	0.0222		297.4505	297.4505	0.0220		298.0016
Worker	0.1052	0.0526	0.7508	1.9900e-003	0.1972	1.4400e-003	0.1986	0.0523	1.3300e-003	0.0536		198.1783	198.1783	5.4800e-003		198.3154
Total	**0.1379**	**1.0685**	**0.9661**	**4.8300e-003**	**0.2650**	**4.2600e-003**	**0.2692**	**0.0718**	**4.0300e-003**	**0.0758**		**495.6287**	**495.6287**	**0.0275**		**496.3170**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9706**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0570	0.0285	0.4067	1.0800e-003	0.1068	7.8000e-004	0.1076	0.0283	7.2000e-004	0.0291		107.3466	107.3466	2.9700e-003		107.4208
Total	**0.0570**	**0.0285**	**0.4067**	**1.0800e-003**	**0.1068**	**7.8000e-004**	**0.1076**	**0.0283**	**7.2000e-004**	**0.0291**		**107.3466**	**107.3466**	**2.9700e-003**		**107.4208**

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9706**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0570	0.0285	0.4067	1.0800e-003	0.1068	7.8000e-004	0.1076	0.0283	7.2000e-004	0.0291		107.3466	107.3466	2.9700e-003		107.4208
Total	**0.0570**	**0.0285**	**0.4067**	**1.0800e-003**	**0.1068**	**7.8000e-004**	**0.1076**	**0.0283**	**7.2000e-004**	**0.0291**		**107.3466**	**107.3466**	**2.9700e-003**		**107.4208**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	20.1435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**20.3480**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157
Total	**0.0219**	**0.0110**	**0.1564**	**4.1000e-004**	**0.0411**	**3.0000e-004**	**0.0414**	**0.0109**	**2.8000e-004**	**0.0112**		**41.2871**	**41.2871**	**1.1400e-003**		**41.3157**

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	20.1435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**20.3480**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157
Total	**0.0219**	**0.0110**	**0.1564**	**4.1000e-004**	**0.0411**	**3.0000e-004**	**0.0414**	**0.0109**	**2.8000e-004**	**0.0112**		**41.2871**	**41.2871**	**1.1400e-003**		**41.3157**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	6.1940	43.3915	30.6139	0.1204	5.0013	0.0926	5.0938	1.3407	0.0871	1.4278		12,368.1772	12,368.1772	1.6237		12,408.7699
Unmitigated	6.3230	44.5318	33.3650	0.1322	5.8494	0.1030	5.9524	1.5680	0.0969	1.6649		13,567.1840	13,567.1840	1.6577		13,608.6262

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,495.02	1,495.02	1495.02	801,935	685,655
Fast Food Restaurant with Drive Thru	1,804.84	1,804.84	1804.84	1,686,303	1,441,789
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	135.90	135.90	135.90	238,274	203,724
Total	3,435.76	3,435.76	3,435.76	2,726,513	2,331,169

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Fast Food Restaurant with Drive Thru	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Regional Shopping Center	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Parking Lot	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive 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	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
NaturalGas Unmitigated	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429

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					
Convenience Market With Gas Pumps	213.414	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003		25.1075	25.1075	4.8000e-004	4.6000e-004	25.2567
Fast Food Restaurant with Drive Thru	1268.28	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	105.534	1.1400e-003	0.0104	8.6900e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4158	12.4158	2.4000e-004	2.3000e-004	12.4896
Total		**0.0171**	**0.1556**	**0.1307**	**9.4000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**		**186.7333**	**186.7333**	**3.5800e-003**	**3.4300e-003**	**187.8429**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.213414	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003		25.1075	25.1075	4.8000e-004	4.6000e-004	25.2567
Fast Food Restaurant with Drive Thru	1.26828	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.105534	1.1400e-003	0.0104	8.6900e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4158	12.4158	2.4000e-004	2.3000e-004	12.4896
Total		**0.0171**	**0.1556**	**0.1307**	**9.4000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**		**186.7333**	**186.7333**	**3.5800e-003**	**3.4300e-003**	**187.8429**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Unmitigated	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140

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	0.0552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7000e-004	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Total	**0.3523**	**6.0000e-005**	**6.1300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0131**	**0.0131**	**3.0000e-005**		**0.0140**

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	0.0552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7000e-004	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Total	**0.3523**	**6.0000e-005**	**6.1300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0131**	**0.0131**	**3.0000e-005**		**0.0140**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Country Club Commercial

Madera County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market With Gas Pumps	7.28	1000sqft	0.17	7,280.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Regional Shopping Center	3.60	1000sqft	0.08	3,600.00	0
Parking Lot	46.89	1000sqft	1.08	46,887.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square feet and acreage calculations based on site plan provided by applicant. Parking lot land use includes paved surface area and landscape area. Fast Food establishment is a different land use than project being proposed which is a coffee/donut shop. Traffic impact analysis for project utilized different ITE land uses for calculations.

Construction Phase - No demolition required. Site is presently vacant.

Mobile Land Use Mitigation - Creation of jobs from new businesses including convenience store, drive-through coffee shop and future retail. The intersection of Country Club Drive and Adell Street will be improved with pedestrian access striping. The sidewalk along Adell Street will be constructed to City standards, improving pedestrian network and accessibility. Country Club Drive will have a traffic median installed. Nearest bus stop is 0.2 miles from the project site.

Energy Mitigation - https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Waste Mitigation -

Vehicle Trips - Daily trips based off of traffic impact analysis of traffic impacts derived from project.

Landscape Equipment -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	46,890.00	46,887.00
tblVehicleTrips	ST_TR	1,448.33	205.36
tblVehicleTrips	ST_TR	722.03	820.38
tblVehicleTrips	ST_TR	49.97	37.75
tblVehicleTrips	SU_TR	1,182.08	205.36
tblVehicleTrips	SU_TR	542.72	820.38
tblVehicleTrips	SU_TR	25.24	37.75
tblVehicleTrips	WD_TR	845.60	205.36
tblVehicleTrips	WD_TR	496.12	820.38
tblVehicleTrips	WD_TR	42.70	37.75

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	1.9562	17.4437	13.8804	0.0267	5.8653	0.7659	6.6312	2.9711	0.7046	3.6757	0.0000	2,473.2611	2,473.2611	0.5408	0.0000	2,482.9629
2022	20.3685	13.5898	13.6176	0.0266	0.2650	0.5933	0.8582	0.0718	0.5730	0.6448	0.0000	2,464.3330	2,464.3330	0.4139	0.0000	2,473.7924
Maximum	**20.3685**	**17.4437**	**13.8804**	**0.0267**	**5.8653**	**0.7659**	**6.6312**	**2.9711**	**0.7046**	**3.6757**	**0.0000**	**2,473.2611**	**2,473.2611**	**0.5408**	**0.0000**	**2,482.9629**

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	1.9562	17.4437	13.8804	0.0267	5.8653	0.7659	6.6312	2.9711	0.7046	3.6757	0.0000	2,473.2611	2,473.2611	0.5408	0.0000	2,482.9629
2022	20.3685	13.5898	13.6176	0.0266	0.2650	0.5933	0.8582	0.0718	0.5730	0.6448	0.0000	2,464.3330	2,464.3330	0.4139	0.0000	2,473.7924
Maximum	**20.3685**	**17.4437**	**13.8804**	**0.0267**	**5.8653**	**0.7659**	**6.6312**	**2.9711**	**0.7046**	**3.6757**	**0.0000**	**2,473.2611**	**2,473.2611**	**0.5408**	**0.0000**	**2,482.9629**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Energy	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
Mobile	4.7108	44.0775	37.0981	0.1202	5.8494	0.1090	5.9584	1.5680	0.1027	1.6707		12,330.9918	12,330.9918	1.8649		12,377.6145
Total	**5.0802**	**44.2331**	**37.2349**	**0.1212**	**5.8494**	**0.1209**	**5.9703**	**1.5680**	**0.1146**	**1.6826**		**12,517.7382**	**12,517.7382**	**1.8685**	**3.4200e-003**	**12,565.4714**

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	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Energy	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
Mobile	4.5852	42.8368	34.8351	0.1093	5.0013	0.0987	5.0999	1.3407	0.0929	1.4336		11,217.9045	11,217.9045	1.8333		11,263.7378
Total	**4.9546**	**42.9925**	**34.9719**	**0.1102**	**5.0013**	**0.1105**	**5.1117**	**1.3407**	**0.1048**	**1.4454**		**11,404.6509**	**11,404.6509**	**1.8369**	**3.4200e-003**	**11,451.5947**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.47**	**2.80**	**6.08**	**9.02**	**14.50**	**8.59**	**14.38**	**14.50**	**8.54**	**14.09**	**0.00**	**8.89**	**8.89**	**1.69**	**0.00**	**8.86**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/2/2021	5	2	
2	Grading	Grading	7/3/2021	7/8/2021	5	4	
3	Building Construction	Building Construction	7/9/2021	4/14/2022	5	200	
4	Paving	Paving	4/15/2022	4/28/2022	5	10	
5	Architectural Coating	Architectural Coating	4/29/2022	5/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 19,620; Non-Residential Outdoor: 6,540; Striped Parking Area: 2,813 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	24.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.7996**	**0.7654**	**6.5650**	**2.9537**	**0.7041**	**3.6578**		**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0354	0.0234	0.2338	6.1000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		60.4745	60.4745	1.8000e-003		60.5195
Total	**0.0354**	**0.0234**	**0.2338**	**6.1000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**60.4745**	**60.4745**	**1.8000e-003**		**60.5195**

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.7996**	**0.7654**	**6.5650**	**2.9537**	**0.7041**	**3.6578**	**0.0000**	**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0354	0.0234	0.2338	6.1000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		60.4745	60.4745	1.8000e-003		60.5195
Total	**0.0354**	**0.0234**	**0.2338**	**6.1000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**60.4745**	**60.4745**	**1.8000e-003**		**60.5195**

3.3 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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0354	0.0234	0.2338	6.1000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		60.4745	60.4745	1.8000e-003		60.5195
Total	**0.0354**	**0.0234**	**0.2338**	**6.1000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**60.4745**	**60.4745**	**1.8000e-003**		**60.5195**

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0354	0.0234	0.2338	6.1000e-004	0.0657	5.0000e-004	0.0662	0.0174	4.6000e-004	0.0179		60.4745	60.4745	1.8000e-003		60.5195
Total	**0.0354**	**0.0234**	**0.2338**	**6.1000e-004**	**0.0657**	**5.0000e-004**	**0.0662**	**0.0174**	**4.6000e-004**	**0.0179**		**60.4745**	**60.4745**	**1.8000e-003**		**60.5195**

3.4 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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0375	1.0827	0.2798	2.7800e-003	0.0678	3.3800e-003	0.0712	0.0195	3.2300e-003	0.0228		290.6176	290.6176	0.0254		291.2528
Worker	0.1061	0.0703	0.7013	1.8200e-003	0.1972	1.4900e-003	0.1987	0.0523	1.3700e-003	0.0537		181.4234	181.4234	5.4000e-003		181.5584
Total	**0.1437**	**1.1530**	**0.9810**	**4.6000e-003**	**0.2650**	**4.8700e-003**	**0.2698**	**0.0718**	**4.6000e-003**	**0.0764**		**472.0411**	**472.0411**	**0.0308**		**472.8112**

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0375	1.0827	0.2798	2.7800e-003	0.0678	3.3800e-003	0.0712	0.0195	3.2300e-003	0.0228		290.6176	290.6176	0.0254		291.2528
Worker	0.1061	0.0703	0.7013	1.8200e-003	0.1972	1.4900e-003	0.1987	0.0523	1.3700e-003	0.0537		181.4234	181.4234	5.4000e-003		181.5584
Total	**0.1437**	**1.1530**	**0.9810**	**4.6000e-003**	**0.2650**	**4.8700e-003**	**0.2698**	**0.0718**	**4.6000e-003**	**0.0764**		**472.0411**	**472.0411**	**0.0308**		**472.8112**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0345	1.0240	0.2525	2.7500e-003	0.0678	2.9300e-003	0.0707	0.0195	2.8000e-003	0.0223		287.9212	287.9212	0.0250		288.5451
Worker	0.0982	0.0628	0.6386	1.7600e-003	0.1972	1.4400e-003	0.1986	0.0523	1.3300e-003	0.0536		174.8690	174.8690	4.8100e-003		174.9892
Total	**0.1327**	**1.0868**	**0.8911**	**4.5100e-003**	**0.2650**	**4.3700e-003**	**0.2693**	**0.0718**	**4.1300e-003**	**0.0760**		**462.7902**	**462.7902**	**0.0298**		**463.5344**

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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0345	1.0240	0.2525	2.7500e-003	0.0678	2.9300e-003	0.0707	0.0195	2.8000e-003	0.0223		287.9212	287.9212	0.0250		288.5451
Worker	0.0982	0.0628	0.6386	1.7600e-003	0.1972	1.4400e-003	0.1986	0.0523	1.3300e-003	0.0536		174.8690	174.8690	4.8100e-003		174.9892
Total	**0.1327**	**1.0868**	**0.8911**	**4.5100e-003**	**0.2650**	**4.3700e-003**	**0.2693**	**0.0718**	**4.1300e-003**	**0.0760**		**462.7902**	**462.7902**	**0.0298**		**463.5344**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9706**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0532	0.0340	0.3459	9.5000e-004	0.1068	7.8000e-004	0.1076	0.0283	7.2000e-004	0.0291		94.7207	94.7207	2.6100e-003		94.7858
Total	**0.0532**	**0.0340**	**0.3459**	**9.5000e-004**	**0.1068**	**7.8000e-004**	**0.1076**	**0.0283**	**7.2000e-004**	**0.0291**		**94.7207**	**94.7207**	**2.6100e-003**		**94.7858**

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.2830					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9706**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0532	0.0340	0.3459	9.5000e-004	0.1068	7.8000e-004	0.1076	0.0283	7.2000e-004	0.0291		94.7207	94.7207	2.6100e-003		94.7858
Total	**0.0532**	**0.0340**	**0.3459**	**9.5000e-004**	**0.1068**	**7.8000e-004**	**0.1076**	**0.0283**	**7.2000e-004**	**0.0291**		**94.7207**	**94.7207**	**2.6100e-003**		**94.7858**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	20.1435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**20.3480**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561
Total	**0.0205**	**0.0131**	**0.1331**	**3.7000e-004**	**0.0411**	**3.0000e-004**	**0.0414**	**0.0109**	**2.8000e-004**	**0.0112**		**36.4310**	**36.4310**	**1.0000e-003**		**36.4561**

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	20.1435					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**20.3480**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561
Total	**0.0205**	**0.0131**	**0.1331**	**3.7000e-004**	**0.0411**	**3.0000e-004**	**0.0414**	**0.0109**	**2.8000e-004**	**0.0112**		**36.4310**	**36.4310**	**1.0000e-003**		**36.4561**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	4.5852	42.8368	34.8351	0.1093	5.0013	0.0987	5.0999	1.3407	0.0929	1.4336		11,217.9045	11,217.9045	1.8333		11,263.7378
Unmitigated	4.7108	44.0775	37.0981	0.1202	5.8494	0.1090	5.9584	1.5680	0.1027	1.6707		12,330.9918	12,330.9918	1.8649		12,377.6145

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,495.02	1,495.02	1495.02	801,935	685,655
Fast Food Restaurant with Drive Thru	1,804.84	1,804.84	1804.84	1,686,303	1,441,789
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	135.90	135.90	135.90	238,274	203,724
Total	3,435.76	3,435.76	3,435.76	2,726,513	2,331,169

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Fast Food Restaurant with Drive Thru	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Regional Shopping Center	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949
Parking Lot	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive 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	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429
NaturalGas Unmitigated	0.0171	0.1556	0.1307	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.7333	186.7333	3.5800e-003	3.4200e-003	187.8429

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					
Convenience Market With Gas Pumps	213.414	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003		25.1075	25.1075	4.8000e-004	4.6000e-004	25.2567
Fast Food Restaurant with Drive Thru	1268.28	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	105.534	1.1400e-003	0.0104	8.6900e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4158	12.4158	2.4000e-004	2.3000e-004	12.4896
Total		**0.0171**	**0.1556**	**0.1307**	**9.4000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**		**186.7333**	**186.7333**	**3.5800e-003**	**3.4300e-003**	**187.8429**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.213414	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003		25.1075	25.1075	4.8000e-004	4.6000e-004	25.2567
Fast Food Restaurant with Drive Thru	1.26828	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.105534	1.1400e-003	0.0104	8.6900e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004		12.4158	12.4158	2.4000e-004	2.3000e-004	12.4896
Total		**0.0171**	**0.1556**	**0.1307**	**9.4000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**		**186.7333**	**186.7333**	**3.5800e-003**	**3.4300e-003**	**187.8429**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Unmitigated	0.3523	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140

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	0.0552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7000e-004	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Total	**0.3523**	**6.0000e-005**	**6.1300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0131**	**0.0131**	**3.0000e-005**		**0.0140**

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	0.0552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2965					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7000e-004	6.0000e-005	6.1300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0131	0.0131	3.0000e-005		0.0140
Total	**0.3523**	**6.0000e-005**	**6.1300e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0131**	**0.0131**	**3.0000e-005**		**0.0140**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Appendix B

Traffic Impact Analysis

TRAFFIC IMPACT ANALYSIS

FOR

COUNTRY CLUB COMMERCIAL CENTER

Madera, California

Prepared For:

LION BUILDERS, INC.
3323 Pendragon Street
Bakersfield, CA 93313

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555

September 29, 2020

4509-01

0 Country Club Commercial.rpt

TRAFFIC IMPACT ANALYSIS FOR
COUNTRY CLUB COMMERCIAL CENTER
Madera, California

TABLE OF CONTENTS

KDA

COUNTRY CLUB COMMERCIAL CENTER
TRAFFIC IMPACT ANALYSIS

EXECUTIVE SUMMARY

Project Description. This study evaluates the traffic impacts associated with the Country Club Commercial Center project located in the City of Madera. The site is located in the southeast quadrant of the Country Club Drive / Adell Street intersection adjacent to the Tractor Supply Company building. The proposed project will construct a mixed-use site consisting of a 12-position gas station with 4,000 square foot convenience store and a 5,800 square foot retail center; 2,200 square feet of the retail center is identified as a coffee shop with drive-through window while the remaining 3,600 square feet is identified as future retail space. Access to the project will be from an existing shared driveway along Country Club Drive which currently provides access to Tractor Supply, and two new driveways along Adell Street. The existing shared driveway will be limited to right-in, right-out movements with the completion of this project. The project is expected to generate approximately 4,405 daily trips, 349 a.m. peak hour trips and 310 p.m. peak hour trips. After accounting for pass-by and internal trips the site is projected to generate 1,284 new daily trips, 76 new a.m. peak hour trips and 105 new p.m. peak hour trips.

Existing Conditions. All intersections will operate within accepted City of Madera LOS thresholds; however, the Country Club Drive / Adell Street intersection will meet the peak hour signal warrant. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal. As the intersection operates acceptably, no recommendations are made.

Existing Plus Project Conditions.

Vehicle Miles Traveled. The proposed project is a local serving 9,800 square foot mixed-use site consisting of a 12-position gas station with 4,000 square foot convenience store and a 5,800 square foot retail center; 2,200 square feet of the retail center is identified as a coffee shop with drive-through window while the remaining 3,600 square feet is identified as future retail space. As noted in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* local serving retail projects are presumed to have a less than significant transportation impact.

General Plan Consistency. All intersections except the Country Club Drive / Adell Street will operate within accepted City of Madera LOS thresholds. This intersection will operate at LOS E along Adell Street in the a.m. peak hour. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal.

The following recommended improvements are presented:

- Adell Street is identified in the General Plan as a collector street. The City's Collector Street standard cross section includes two through lanes and a center turn lane. The existing Adell Street approach includes a single left-through lane. The project should

install frontage half-street improvements and restripe Adell Street to include the separate westbound left and right turn lanes. This will improve the intersection to LOS C conditions.

- The project shall contribute its fair share to the cost of circulation improvements via the existing Citywide traffic impact mitigation (TIM) fee program.

Existing plus Approved Projects (EPAP) Conditions. All intersections will continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection will continue to meet the peak hour signal warrant. As the intersection operates acceptably, no recommendations are made.

EPAP Plus Project Conditions.

General Plan Consistency. The Country Club Drive / Adell Street will operate at LOS E, below the City's LOS threshold. As identified in the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right turn lanes at Country Club Drive will continue to maintain LOS C conditions at the Country Club Drive / Adell Street intersection. No additional recommended improvements are identified.

2042 Conditions. All intersections will continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection will continue to meet the peak hour signal warrant. As the intersection operates acceptably, no recommendations are made.

2042 Conditions with Project.

General Plan Consistency. The Country Club Drive / Adell Street will operate at LOS E, below the City's LOS threshold. As identified in the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right turn lanes at Country Club Drive will continue to maintain LOS C conditions at the Country Club Drive / Adell Street intersection. No additional recommended improvements are identified.

COUNTRY CLUB COMMERCIAL CENTER
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with the **Country Club Commercial Center** project located in the City of Madera. The site is located in the southeast quadrant of the Country Club Drive / Adell Street intersection adjacent to the Tractor Supply Company building. The proposed project includes a 12-position gas station with a 4,000 square foot convenience store and a 5,800 square foot retail center; 2,200 square feet of the retail center is currently identified as a coffee shop with drive-through window while the remaining 3,600 square feet is identified as future retail space. The report analyzes one existing intersection, Country Club Drive at Adell Street, the northern driveway access to Tractor Supply Company along Country Club Drive, and two new driveways to the project along Adell Street.

The study parameters are consistent with City of Madera guidelines. The study addresses the following traffic scenarios:

1. Existing AM and PM Peak Hour Traffic Conditions;
2. Existing Plus Project AM and PM Peak Hour Traffic Conditions;
3. Existing plus Approved Projects (EPAP) Traffic Conditions;
4. EPAP Plus Project Traffic Conditions;
5. Cumulative Year 2035 Conditions without Project; and
6. Cumulative Year 2035 Conditions with Project.

The objective of this study is to identify what effects the project will have on the area roadway network and local intersections.

Project Description

The Country Club Commercial Center project includes a 12-position gas station with 4,000 square foot convenience store and an 5,800 square foot retail center which includes a coffee shop with drive-through window. The project will have access from the street system at three driveways. These include two new driveways along Adell Street and the existing driveway on the north side of the Tractor Supply Company site along Country Club Drive; this existing driveway will become a shared driveway. The project will extend the existing median along Country Club Drive to allow only right-in, right-out movements. The location of the project is illustrated in Figure 1 while Figure 2 presents the proposed site plan for the project.

VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

4509-01 RA 9/23/2020

figure 1

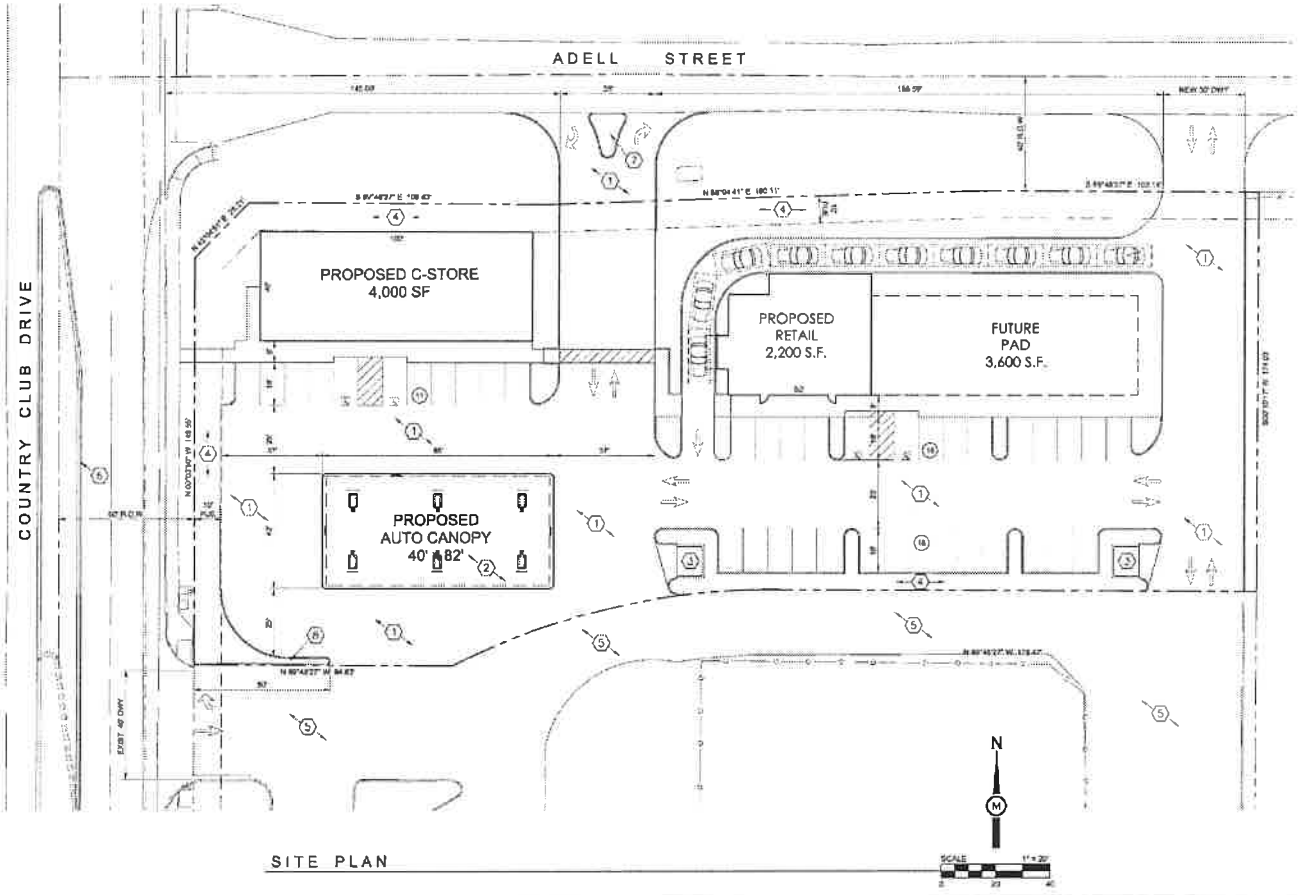
COUNTRY CLUB COMMERCIAL CENTER

COUNTRY CLUB DRIVE, MADERA, CA 93638

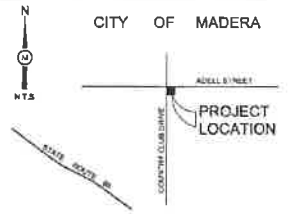
CONSTRUCTION NOTES

1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE SIDEWALK
3. NEW TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. EXISTING IMPROVEMENTS
6. NEW RAISED MEDIAN PER CITY STANDARDS
7. NEW RAISED CONCRETE ISLAND
8. NEW EXTENDED PLANTER

SHEET INDEX



SITE PLAN



VICINITY MAP

LOT DATA:

ASSESSOR'S PARCEL NUMBER(S): 003-250-026

PARCEL SIZE:	59,677 (1.37 AC)
EXISTING ZONING:	C-1 LIGHT COMMERCIAL
PROPOSED ZONING:	C-1 LIGHT COMMERCIAL
EXISTING USE:	VACANT PARCEL
PROPOSED USE:	GAS STATION, CONVENIENCE STORE, AND RETAIL BUILDING

SITE COVERAGE:

BUILDING COVERAGE:	12,800 SF (21.4%)
LANDSCAPE AREA:	14,652 SF (24.6%)
PAVED SURFACE AREA:	32,225 SF (54.0%)

PARKING DATA:

REQUIRED:

C-STORE (4,000 SF) (1 SPACE PER 300 SF)	= 13 SPACES
RETAIL BLDG (8,800 SF) (1 SPACE PER 300 SF)	= 29 SPACES
REQUIRED:	42 SPACES

PROVIDED:

STANDARD SPACE (9'x18')	41 SPACES
ACCESSIBLE SPACE (9'x18')	2 SPACES
PROVIDED:	43 SPACES

OWNER: LION BUILDERS INC

Chevron

PROJECT: COUNTRY CLUB CENTER
COUNTRY CLUB DRIVE & ADELL STREET
MADERA, CA 93638

MILESTONE ASSOCIATES

SITE PLAN

DD1

SITE PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

4509-01 RA 9/23/2020

figure 2

EXISTING SETTING

Study Area

This study addresses traffic conditions on the adjacent roadways that will be used to access the site and a review of the site plan. The text that follows describes these facilities.

Intersections

The quality of traffic flow is often governed by the operation of the local intersections. For this study one existing intersection and one driveway were evaluated. The study locations include:

The **Country Club Drive / Adell Street intersection** is a minor leg stop controlled tee intersection. Country Club Drive is identified as an arterial roadway in Madera while Adell Street is a collector road. The northbound approach includes a through lane and a shared through-right turn lane while the southbound approach includes a left turn lane and two through lanes. Marked crosswalks are not present in the intersection.

The **Country Club Drive / Tractor Supply Company (TSC) driveway** is stop controlled along the driveway approach. Northbound Country Club Drive includes a through lane and a shared through-right lane while the southbound approach includes a two-way left-turn-lane (TWLTL) north of the TSC driveway. This TWLTL is used for left turning vehicles to enter the site. A raised median is present beginning at the north end of the driveway and extends about 260' south. While it inhibits left turning outbound TSC traffic some motorists turn right and make an immediate U-turn directly north of the island.

Alternative Transportation Modes

Madera Area Express (MAX) provides fixed route service along two routes in the City of Madera. Route 1 serves primarily areas east of SR 99 and southwest Madera while Route 2 serves primarily areas west of SR 99 and a portion of southeast Madera. The closest stops are along Route 1 where the route travels through the Country Club Drive / Sherwood Way intersection and the Adell Street / Sonora Street intersection; both intersections are about ½ mile from the project site. The route operates Monday through Saturday. Madera Dial-A-Ride service is a demand-response system and is available weekdays between 7:00 a.m. and 6:30 p.m. and Saturdays between 9:00 a.m. and 4:00 p.m. Sunday service is also available between 8:30 a.m. and 2:30 p.m.

Pedestrian / Bicycle Circulation

Facilities that are dedicated to pedestrians and bicycles vary within the City of Madera. Pedestrian facilities can be found in residential and commercial areas. In the project vicinity, sidewalks are present along Country Club Drive; however, sidewalk is not present along Adell Street from Country Club Drive through Owens Street. The city is adding bike facilities annually to the transportation system. In the project vicinity, though, there are currently no marked bike lanes or bike paths.

Vehicle Miles Traveled (VMT) Significance Threshold. The CEQA Guidelines and the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) encourage all public agencies to develop and publish thresholds of significance to assist with determining when a project would have significant transportation impacts based on the new metric of VMT, rather than operating Level of Service (LOS). The CEQA Guidelines generally state that projects that decrease VMT can be assumed to have a less than significant transportation impact. The CEQA Guidelines do not provide any specific criteria on how to determine what level of project VMT would be considered a significant impact.

Certain types of projects as identified in statute, the CEQA Guidelines, or in OPR's Technical Advisory are presumed to have a less than significant impact on VMT and therefore a less than significant impact on transportation. Generally, the identified projects contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower average trip length. These projects include, for example, projects in transit priority areas, projects consisting of residential infill or those located in low VMT areas.

Caltrans references OPR's December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which identifies projects and areas presumed to have a less than significant transportation impact. Those include:

1. Residential, office, or retail projects within a Transit Priority Area, where a project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high-quality transit corridor.

    a. A major transit stop is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3).

    b. A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources Code, § 21155).

2. An area pre-screened by an agency as having low residential or office VMT:

    a. An area where existing residential projects exhibit VMT per capita 15 percent or more below city or regional average.

    b. An area where existing office projects exhibit VMT per capita 15 percent or more below regional average.

3. Residential projects composed of 100 percent or near-100 percent affordable housing located in any infill location. Additionally, per OPR's Technical Advisory, "Lead agencies may develop

their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units."

4. A locally-serving retail project (such a project typically reduces vehicle travel by providing a more proximate shopping destination, i.e., better accessibility).

5. Mixed-use projects composed entirely of the above low-VMT project types.

6. In any area of the state, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.

However, a land use project near transit may have a significant impact on VMT if it:

1. Has a floor area ratio less than 0.75.
2. Includes more parking than required by the local permitting agency.
3. Is inconsistent with the region's Sustainable Communities Strategy (i.e., development is outside region's development footprint, or in area specified as open space).
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Should a project not meet the minimum screening thresholds a VMT analysis should be conducted. The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) identifies a threshold of 15 percent below the baseline for determining the significance of VMT impacts associated with residential and office land use developments. OPR suggests that retail development including stores larger than 50,000 square feet might be considered regional-serving, and lead agencies should consider undertaking an analysis to determine whether the project might increase or decrease VMT.

The VMT analysis presented in this traffic impact study is not intended to pre-empt either the City or MCTC process of developing and adopting VMT guidelines. Rather, the analysis presented in this traffic impact study is intended to be a good-faith effort at disclosing and identifying the VMT impacts of the Country Club Commercial Center project based on currently available data and guidance.

Level of Service Analysis

Methodology. *Level of Service Analysis* has been employed to provide a basis for describing existing traffic conditions and for project traffic impacts relative to General Plan consistency. Level of Service measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. Table 1 presents typical Level of Service characteristics.

Local agencies adopt minimum Level of Service standards for their facilities. The City of Madera identifies LOS 'C' as the acceptable Level of Service within the City. The *Highway Capacity Manual 6th Edition* was used to provide a basis for describing existing traffic conditions and for evaluating the impact of project traffic on the surrounding area.

The *Highway Capacity Manual 6th Edition* presents methodologies for calculating Level of Service at intersections. At signalized intersections and intersections controlled by all-way stop signs, traffic conditions are described in terms of the average length of the delays experienced by all motorists. Intersection configuration, traffic volumes and traffic signal timing are all factors that enter into determination of the length of average delay and the resulting Level of Service. For unsignalized intersections level of service is based on the worst delay of all the controlled movements.

Various software programs have been developed to assist in calculating intersection Level of Service, and the level of sophistication of each program responds to factors that affect the overall flow of traffic. For this project, Synchro software was used to analyze the intersections.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: Highway Capacity Manual 6th Edition, Transportation Research Board (TRB).

The intersection Levels of Service presented in this analysis are based on the weighted average total delay per vehicle for the intersection as a whole at signalized intersections and at locations controlled by all-way stops. The average delay experienced by motorists yielding the right of way is the basis for identification of Level of Service at locations controlled by side street stop signs.

The City of Madera seeks to maintain a Level of Service 'C' at all times on all roadways and intersections in the City with the following exceptions:

a) *On arterial roadways or roadways with at-grade railroad crossings that were experiencing congestion exceeding LOS C during peak hour travel times as of the date the General Plan Update is adopted the City shall seek to maintain LOS D or better.*

b) *The city policy does not extend to freeways (where Caltrans policies apply) or to private roadways.*

c) *In the Downtown District (as defined in the Land Use Element of the General Plan) the City shall seek to maintain LOS D.*

Existing Traffic Conditions

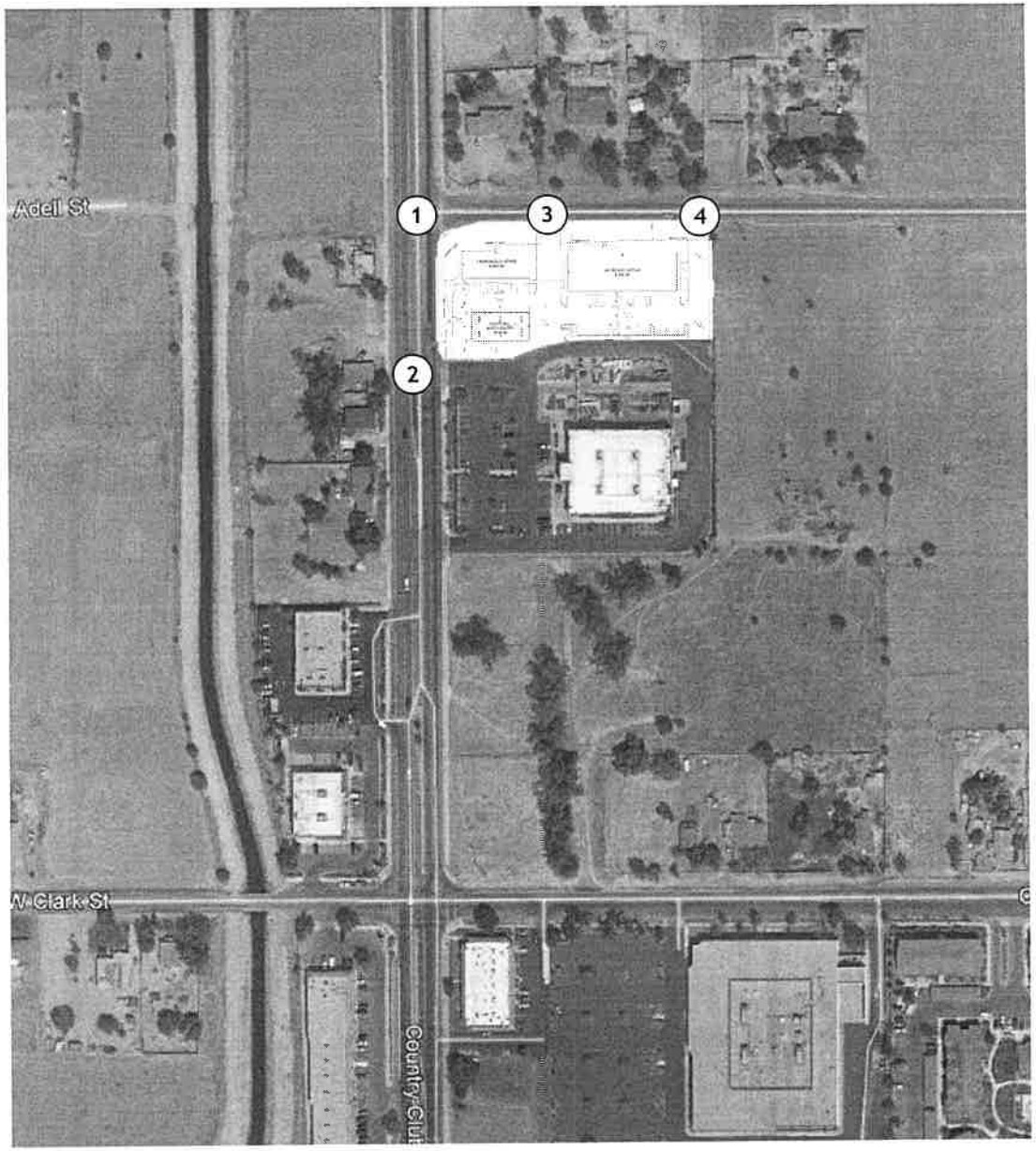
Existing a.m. and p.m. traffic volumes were counted in March 2020 while school was still in session. These volumes were used to analyze the existing condition scenario. The intersection volumes are shown in Figure 3.

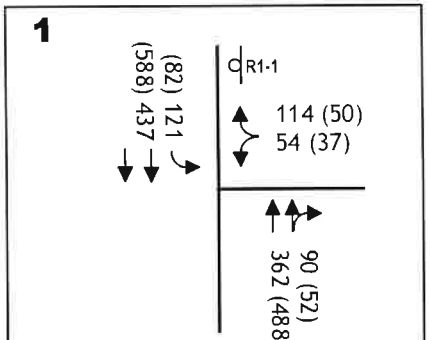
Intersection Levels of Service. The Level of Service for the study intersections is based on and measured in terms of control delay for the peak fifteen-minute analysis period. Table 2 summarizes current Levels of Service at the study intersections during the a.m. and p.m. peak hour. As noted earlier, westbound left turn access from the Tractor Supply Company (TSC) driveway onto southbound Country Club Drive is inhibited by the raised median island; however, vehicles were still noted driving north and making a quick U-turn around the end of the median. The Country Club Drive / Adell Street intersection currently operates at LOS C along the Adell Street approach while the Country Club Drive / TSC driveway operates at LOS B. Both intersections operate above the City's LOS D threshold.

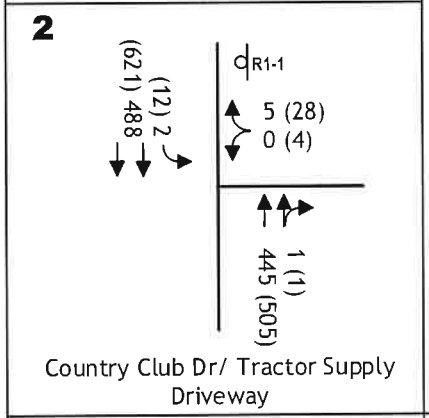
Traffic volumes at both intersections were evaluated to determine if the peak hour traffic signal warrant, published in the CA MUTCD was met. The warrant is frequently the first warrant that can be met to determine if an intersection should be signalized. The Country Club Drive / Adell Street intersection was analyzed under the Peak Hour 70% Factor as the posted speeds at the intersection change from 40 mph to 45 mph northbound and 45 mph to 40 mph southbound. The Country Club Drive / TSC driveway was analyzed under the Peak Hour warrant as the driveway is within a posted speed of 40 mph. While operating at acceptable levels of service, the Country Club Drive / Adell Street intersection currently meets the peak hour warrant under both a.m. and p.m. conditions.

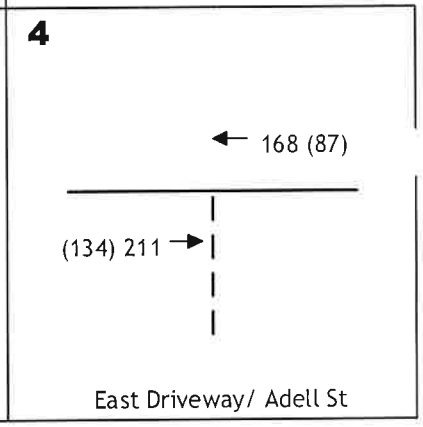
TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

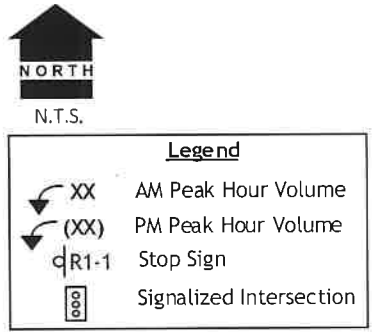
Location	Control	AM Peak Hour		PM Peak Hour		Peak Hour Warrants Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. Country Club Drive /Adell Street						
SB Left	WB Stop	A	9.5	A	8.9	Yes
WB		C	20.1	B	14.1	
2. Country Club Drive /TSC Driveway						
SB Left	WB Stop	A	8.7	A	8.6	No
WB		B	10.2	B	11.3	











EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

PROJECT IMPACTS

Trip Generation

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends.

The trip generation of the project was computed using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 10th Edition, 2017) based on the projected uses.

The proposed project will construct a mixed-use site consisting of a 12-position gas station with 4,000 square foot convenience store and a 5,800 square foot retail center; 2,200 square feet of the retail center is identified as a coffee shop with drive-through window while the remaining 3,600 square feet is identified as future retail space. The Institute of Transportation Engineers (ITE) publishes trip generation rates for a variety of land uses including gas stations with convenience stores and various retail uses. Since the 3,600 square foot portion of the commercial building is unknown as to proposed retail uses, the shopping center land use (LU 820) was used to develop retail trips. Table 3 presents the trip generation for the proposed project. The project is projected to create 4,405 daily trips, 349 a.m. peak hour trips and 310 p.m. peak hour trips. After accounting for pass-by trips, trips that are already in the roadway network, the site will generate 1,284 new daily trips, 76 new a.m. peak hour trips and 105 new p.m. peak hour trips.

Motor vehicle trips generated by commercial projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are **"New"** trips. Other trips will be made by patrons who are already in the roadway network and are therefore not adding "new" trips to the overall system. **"Pass-by"** trips would be made by motorists who are already driving by the site as part of another trip. For example, peak hour pass-by trips are common on commuter routes as motorists stop on their way home to get gasoline for their vehicle.

A reduction of new trips was also considered based on 'internally captured' trips. A characteristic of mixed-use development is that trips between the various land uses can be made on the site, and none of these internal trips are made on the major street system. It is reasonable to assume that some trips will be made between the gas station and retail uses on the site. An internal capture rate is generally defined as a percentage reduction that is applied to trip generation estimates for individual land uses to account for the trips internal to the site. The Caltrans rate of 5% was used for internal reduction.

ITE research has suggested typical "pass-by" percentages for various retail land uses where appreciable background traffic occurs. The share of project trips falling into each category can vary over the day. Table 3 presents the "pass-by" reductions and internally captured used for this study. Application of these rates yields 2,901 daily 'pass-by' trips, 255 'pass-by' a.m. peak hour trips and 189 'pass-by' p.m. peak hour trips. Internal trips are projected to account for 220 daily trips, 17 a.m. peak hour trips and 15 p.m. peak hour trips. After accounting for this traffic, the project is expected to generate 1,284 new daily trips, 76 new a.m. peak hour trips and 105 new p.m. peak hour trips.

TABLE 3
TRIP GENERATION

Land Use	Unit Quantity	Size	Trips Per Unit						
			Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Gas Station with Convenience Store (LU 945)	VFP	12	205.36	12.47	51%	49%	13.99	51%	49%
Retail Center (Shopping Center (LU 820)	KSF	3.6	37.75	0.94	62%	38%	10.22	48%	52%
Coffee Shop with Drive-Through Window (LU 937)	KSF	2.2	820.38	88.99	51%	49%	43.38	50%	50%
Gas Station with Convenience Store (LU 945)			2,464	150	76	73	168	86	82
Retail Center (Shopping Center (LU 820)			136	3	2	1	46	22	24
Coffee/Donut Shop with Drive-Through Window (LU 937)			1,805	196	100	96	95	48	48
Sub-Total Trips			**4,405**	**349**	178	171	**310**	156	154
Internal Captured Trips (5%)									
Gas Station with Convenience Store (LU 945)			(123)	(7)	(4)	(4)	(8)	(4)	(4)
Retail Center (Shopping Center (LU 820)			(7)	(0)	(0)	(0)	(2)	(1)	(1)
Coffee/Donut Shop with Drive-Through Window (LU 937)			(90)	(10)	(5)	(5)	(5)	(2)	(2)
Total Internal Trips			**(220)**	**(17)**	(9)	(9)	**(15)**	(8)	(8)
Pass-By Trips									
Gas Station with Convenience Store *(56% Daily, 62% AM, 56% PM)*			(1,380)	(93)	(47)	(45)	(94)	(48)	(46)
Retail Center (Shopping Center (LU 820) *(Daily 17%*, 34% PM)*			(23)	0	0	0	(16)	(8)	(8)
Coffee/Donut Shop with Drive-Through Window (LU 937) *(83% Daily, AM, PM)*			(1,498)	(162)	(83)	(80)	(79)	(40)	(40)
Total Pass-By Trips			**(2,901)**	**(255)**	(130)	(125)	**(189)**	(95)	(94)
Net New Trips			**1,284**	**76**	**39**	**37**	**105**	**53**	**53**

KSF – thousand square feet
VFP – vehicle fueling positions

* - daily rate averaged between AM and PM
Numbers may not match due to rounding

Trip Distribution / Assignment

The distribution of project traffic was determined based on review of existing traffic counts and the travel patterns in the area relative to the land use. Table 4 presents the projected trip distribution. Traffic generated by the project is shown in Figure 4. This traffic was then added to existing peak hour volumes based on the distribution percentages. Figure 5 displays the Existing plus Project generated traffic anticipated for each study intersection in both a.m. and p.m. peak hours.

TABLE 4
PROJECT TRIP DISTRIBUTION

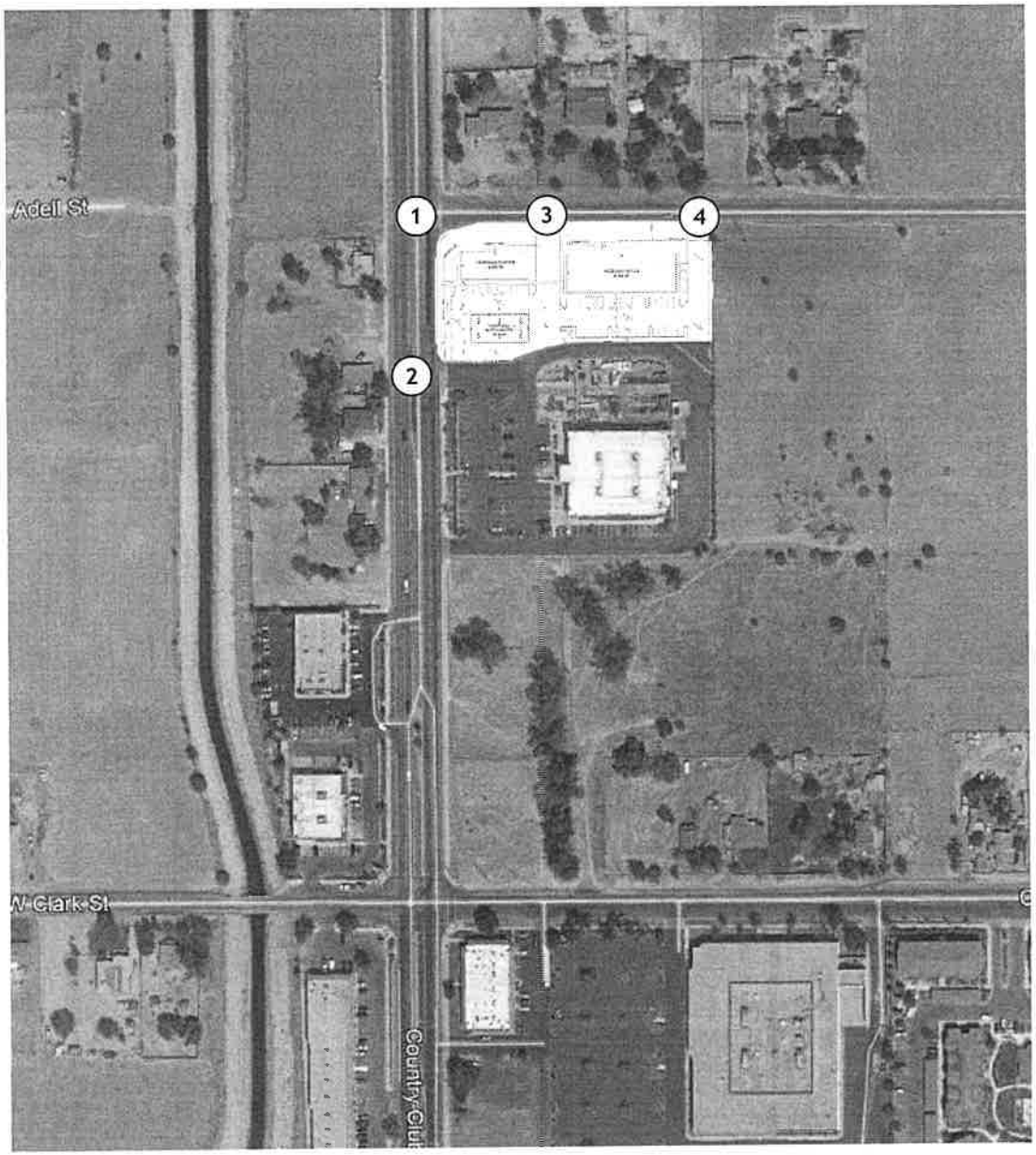
Route	Distribution	
	AM	PM
South on Country Club Drive	50%	45%
North on Country Club Drive	40%	40%
East on Adell Street	10%	15%
Total	100%	100%

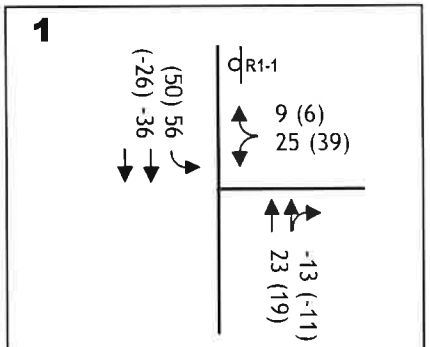
Existing Plus Project Level of Service Impacts

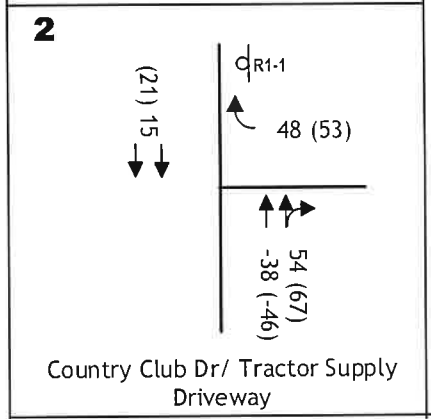
Vehicle Miles Traveled. The proposed project is a local serving 9,800 square foot mixed-use site consisting of a 12-position gas station with 4,000 square foot convenience store and a 5,800 square foot retail center; 2,200 square feet of the retail center is identified as a coffee shop with drive-through window while the remaining 3,600 square feet is identified as future retail space. As noted in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* local serving retail projects are presumed to have a less than significant transportation impact.

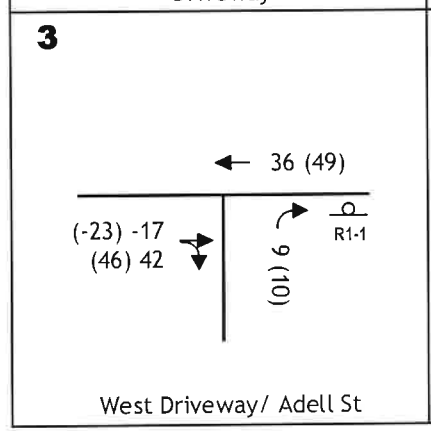
Intersection Levels of Service. Table 5 displays the a.m. and p.m. peak period Level of Service at each study intersection with the proposed project. Under project conditions the Country Club Drive / Adell Street intersection will decline to LOS E along the westbound Adell Street approach in the a.m. peak hour; this the result of a low peak hour factor likely related to traffic to and from the local schools east of the project site. The remaining intersections will operate at LOS C or better during both peak periods.

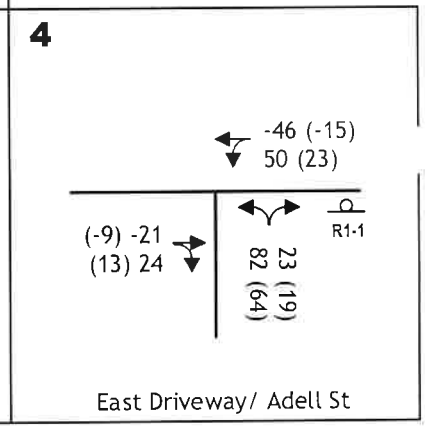
Each study location was evaluated to determine if the peak hour traffic signal warrant was met. This warrant is often the first warrant met and can provide an indication of whether a traffic signal may be required at the intersection. The Country Club Drive / Adell Street intersection will continue to meet the peak hour warrant under both a.m. and p.m. conditions. All other locations do not meet the peak hour warrant.

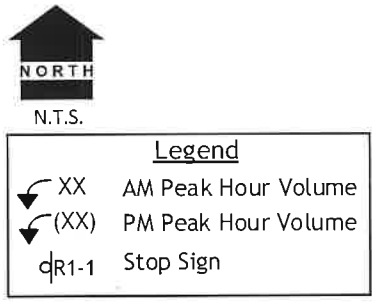




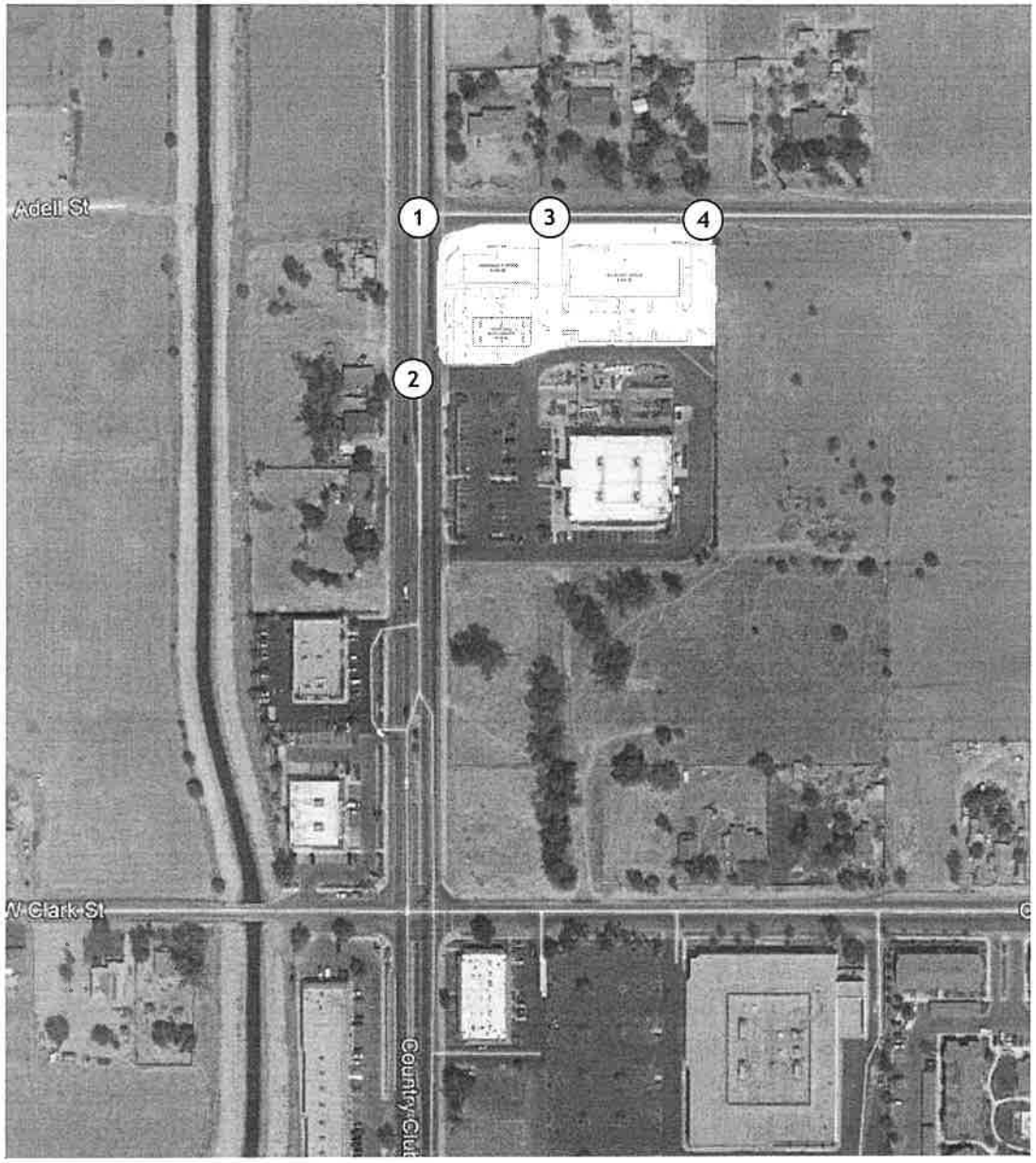


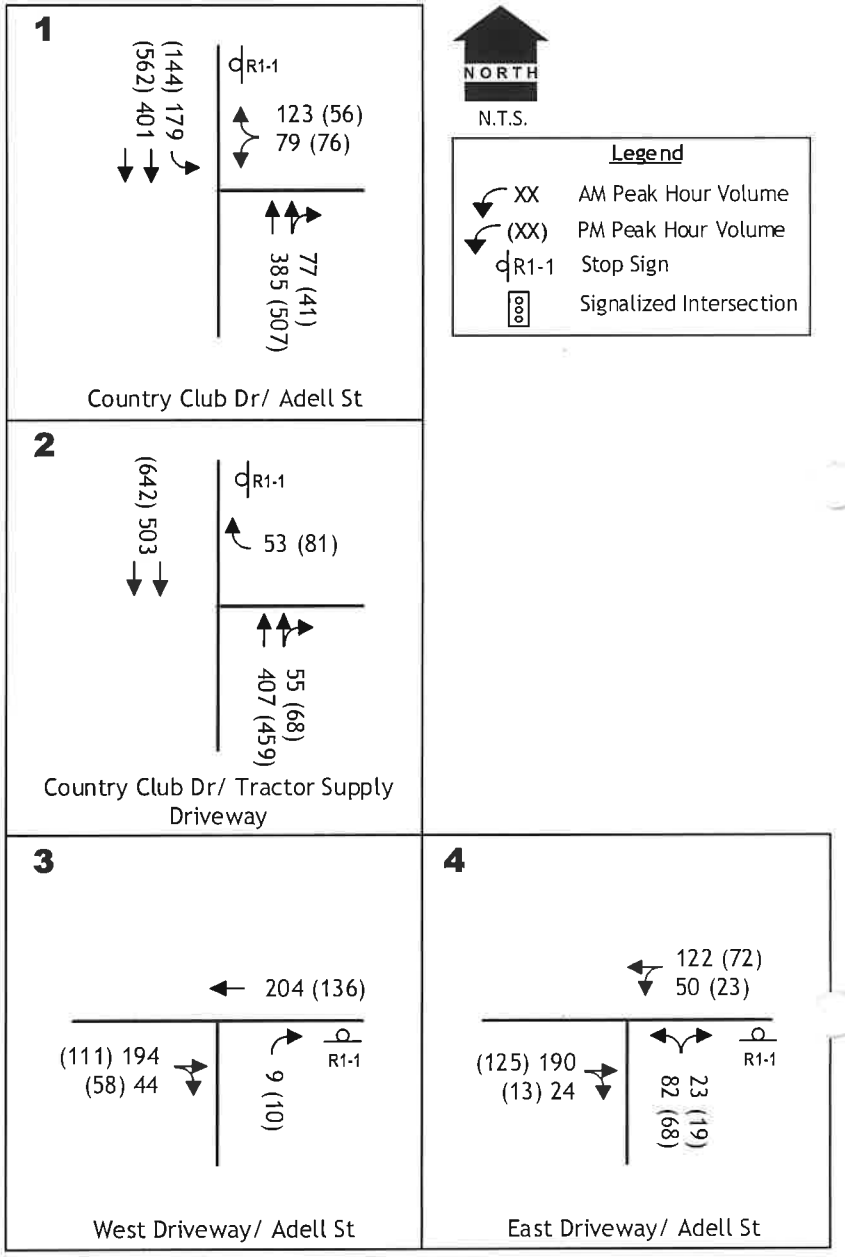






PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers

4509-01 RA 9/23/2020

figure 5

TABLE 5
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Location	Control	Existing AM Peak Hour		Existing PM Peak Hour		Existing plus Project AM Peak Hour		Existing plus Project PM Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. Country Club Drive /Adell Street	WB Stop									Yes
SB Left		A	9.5	A	8.9	B	10.1	A	9.3	
WB		C	20.1	B	14.1	E	37.0	C	19.4	
2. Country Club Drive /TSC Driveway	WB Stop									No
SB Left		A	8.7	A	8.6	N/A	N/A	N/A	N/A	
WB		B	10.2	B	11.3	B	10.8	B	10.7	
3. Adell Street / West Driveway	NB Stop									No
NB Right		---	---	---	---	A	9.9	A	9.1	
4. Adell Street / East Driveway	NB Stop									No
NB		---	---	---	---	B	13.9	B	10.6	
WB Left		---	---	---	---	A	7.9	A	7.6	

Bold indicates City LOS threshold exceeded
N/A – movement removed with project

EXISTING PLUS APPROVED PROJECTS [EPAP]

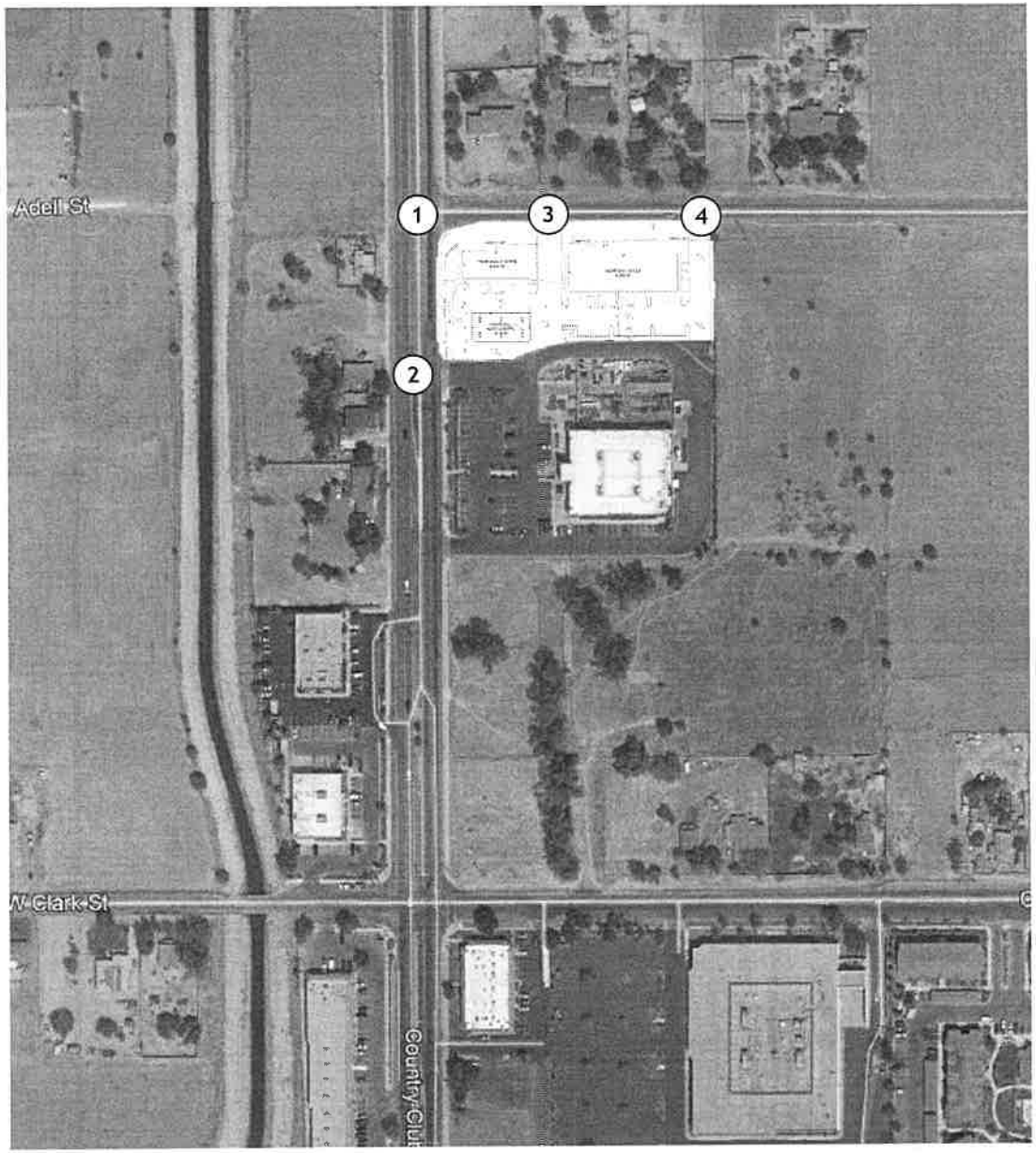
The analysis of the near-term cumulative condition is intended to consider the impact of projects that are approved or are reasonably foreseeable. This is referred to as the "Existing Plus Approved Projects" (EPAP) scenario. Madera staff was contacted to identify approved or pending projects. The only project identified is a 61-lot subdivision in the southwest corner of D Street and Ellis Street and N. D Street. After accounting for this project, the EPAP intersection volumes are shown in Figure 6.

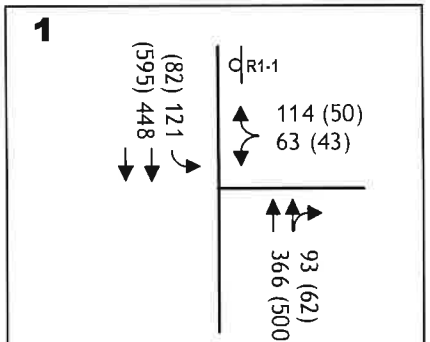
Intersection Levels of Service. Table 6 summarizes Levels of Service at the study intersections during the EPAP a.m. and p.m. peak hour. Westbound left turn access from the Tractor Supply Company (TSC) driveway onto southbound Country Club Drive is still assumed to occur, but no new traffic is assumed to make this movement. The Country Club Drive / Adell Street intersection will continue to operate at LOS C along the Adell Street approach while the Country Club Drive / TSC driveway operates at LOS B. Both intersections operate above the City's LOS D threshold.

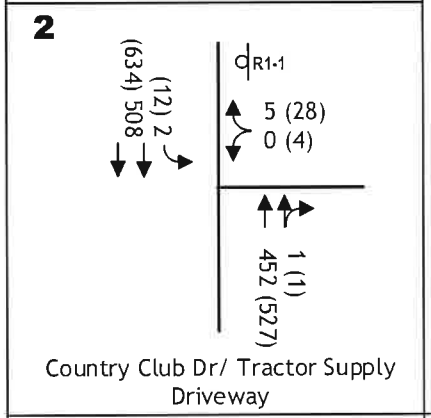
Each study location was evaluated to determine if the peak hour traffic signal warrant. While operating at acceptable levels of service, the Country Club Drive / Adell Street intersection will continue to meet the peak hour warrant under both a.m. and p.m. conditions. The Country Club Drive / TSC driveway will not meet the peak hour warrant.

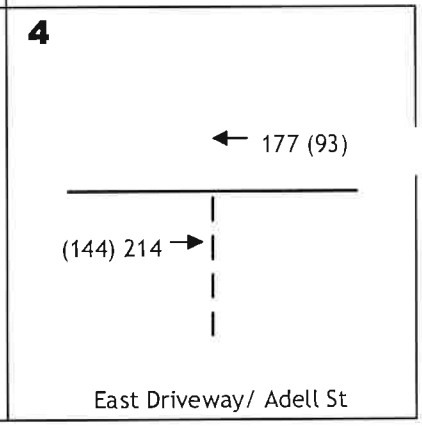
EPAP Plus Project Level of Service Impacts

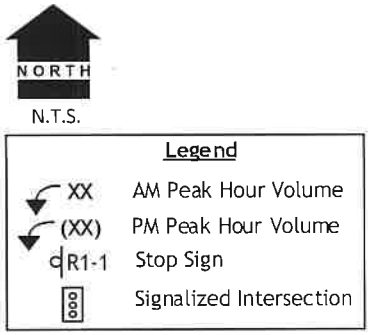
Intersection Levels of Service. Table 6 displays the a.m. and p.m. peak period Level of Service at each study intersection with the proposed project. Under project conditions the Country Club Drive / Adell Street intersection will operate at LOS E along the westbound Adell Street approach in the a.m. peak hour. The remaining intersections will operate at LOS C or better during both peak periods. The Country Club Drive / Adell Street intersection will continue to meet the peak hour warrant under both a.m. and p.m. conditions.



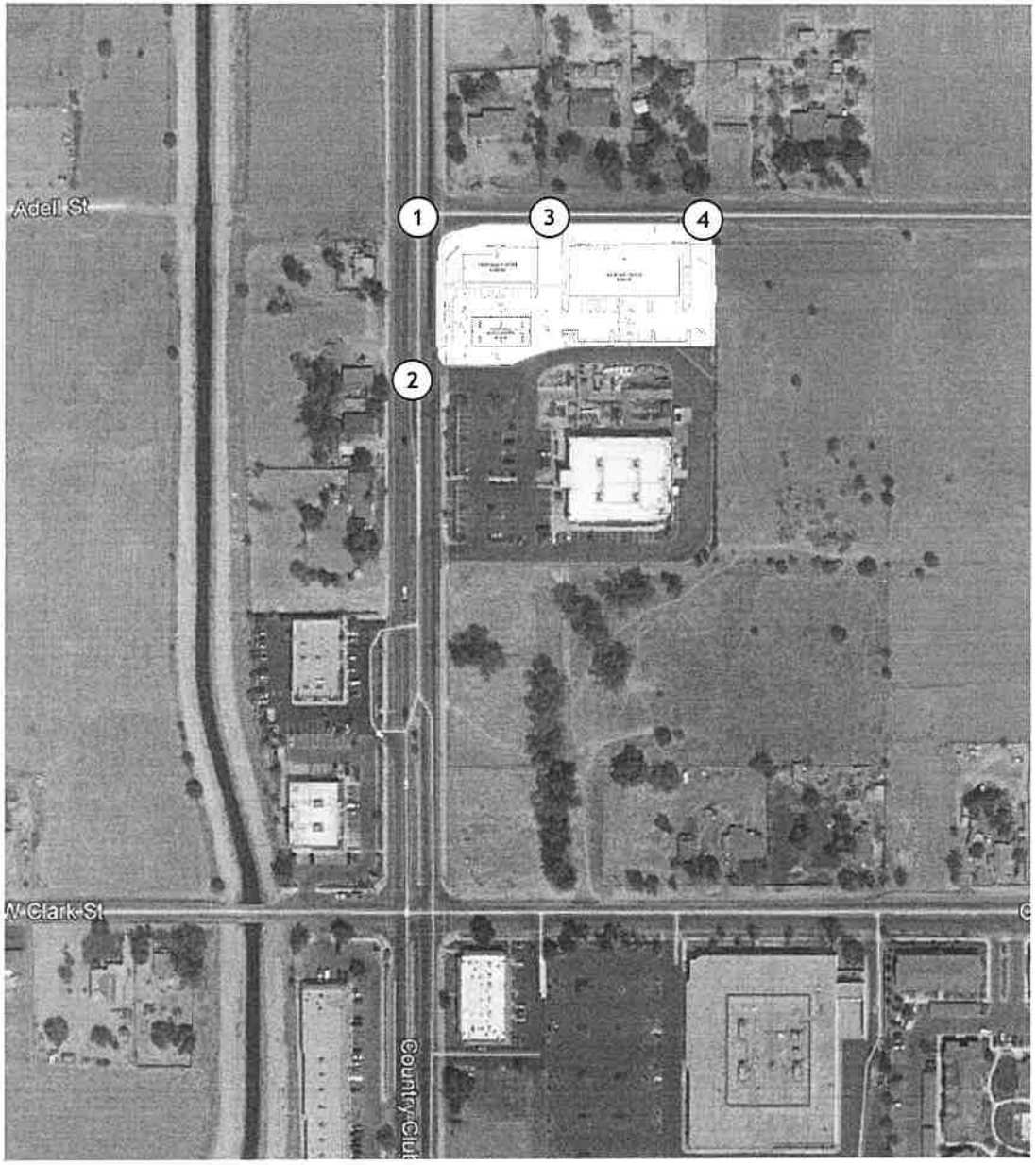


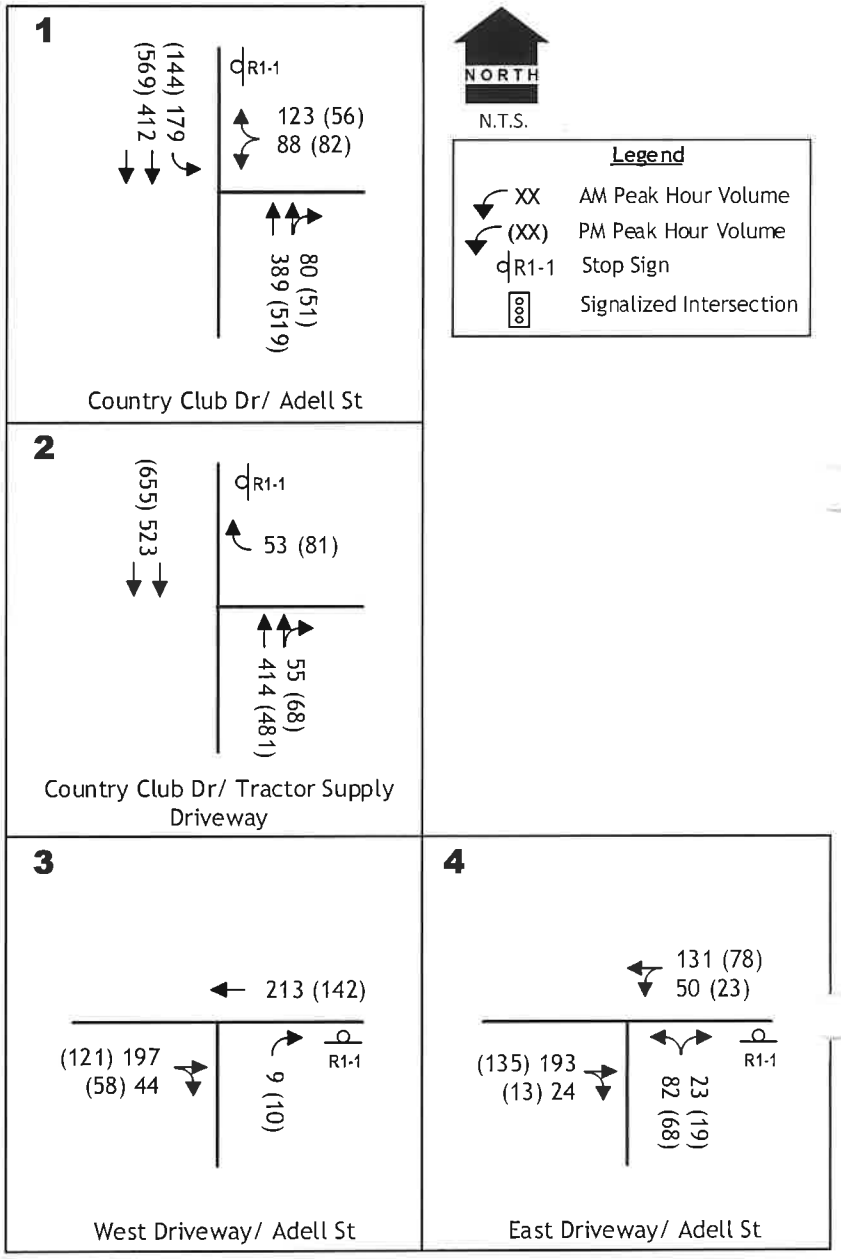






EXISTING PLUS APPROVED PROJECTS
TRAFFIC VOLUMES AND LANE CONFIGURATIONS





EPAP PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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4509-01 RA 9/23/2020

figure 7

TABLE 6
EPAP PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Location	Control	EPAP AM Peak Hour		EPAP PM Peak Hour		EPAP plus Project AM Peak Hour		EPAP plus Project PM Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. Country Club Drive /Adell Street	WB Stop									Yes
SB Left		A	9.6	A	9.0	B	10.1	A	9.4	
WB		C	22.3	B	14.7	E	45.0	C	20.5	
2. Country Club Drive /TSC Driveway	WB Stop									No
SB Left		A	8.7	A	8.6	N/A	N/A	N/A	N/A	
WB		B	10.2	B	11.5	B	10.8	B	10.8	
3. Adell Street / West Driveway	NB Stop									No
NB Right		---	---	---	---	A	9.9	A	9.1	
4. Adell Street / East Driveway	NB Stop									No
NB		---	---	---	---	B	14.2	B	10.7	
WB Left		---	---	---	---	A	8.0	A	7.6	

Bold indicates City LOS threshold exceeded
N/A – movement removed with project

CUMULATIVE 2042 IMPACTS

The analysis of Cumulative 2042 impacts is intended to consider the impact of this project within the context of future conditions under the City of Madera General Plan while also providing information regarding other reasonably foreseeable development proposals. Cumulative 2042 traffic volumes and lane configurations presented herein are based on information derived from the Madera County Transportation Commission (MCTC) travel demand model.

Cumulative 2042 Traffic Conditions

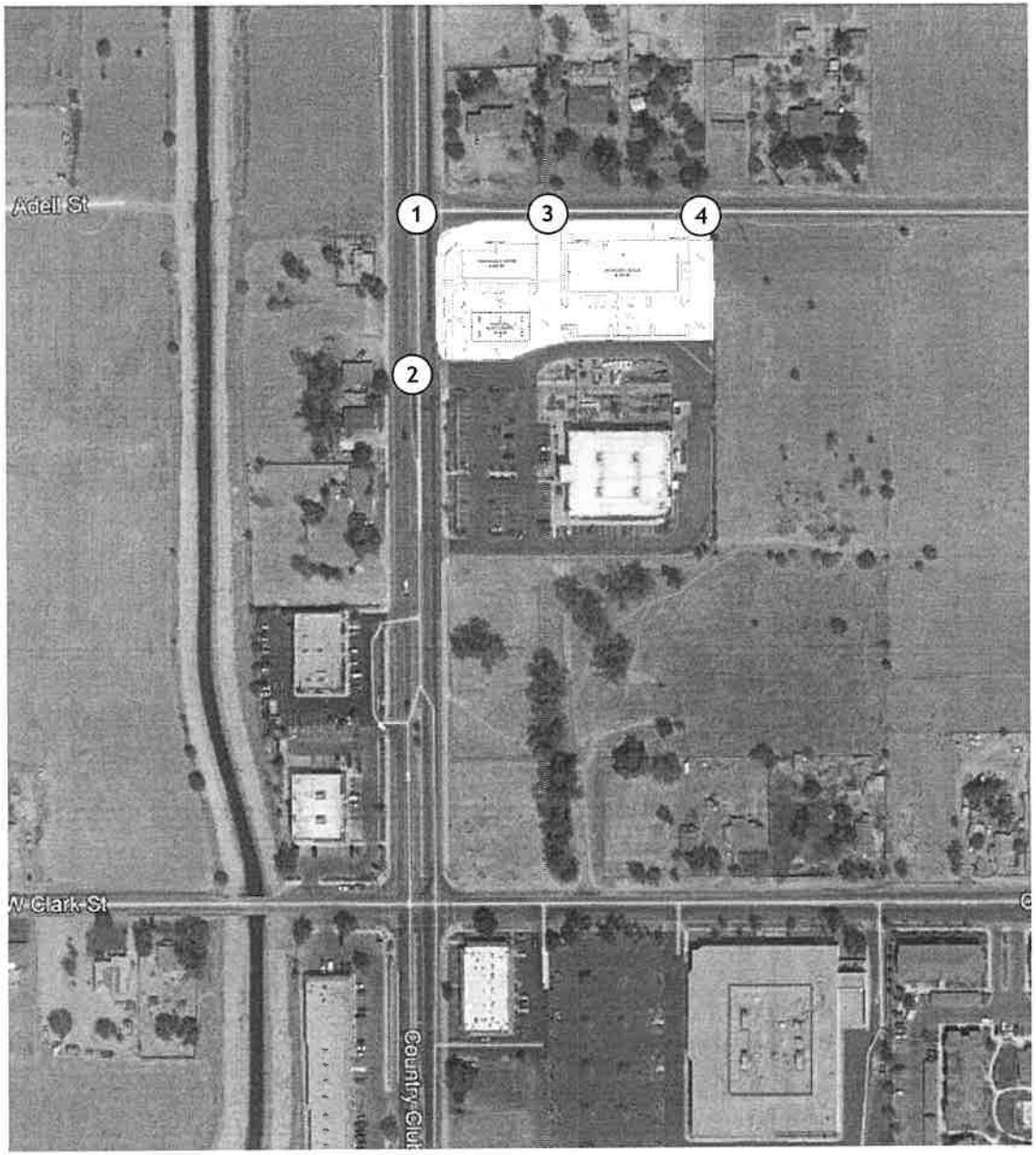
Basis for Analysis - Regional Traffic Growth. The most recent MCTC regional travel demand forecasting model was used as the basis for developing future 2042 volume forecasts in the study area. The differential method was used to develop segment volumes. The differential method was used to develop peak hour segment throughout the project area. This method adds the difference between the cumulative 2042 and baseline 2020 model results to the existing traffic conditions. The study intersection turning movements were then balanced using the techniques described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes. Figure 8 presents the projected intersection turning movement volumes in Year 2042.

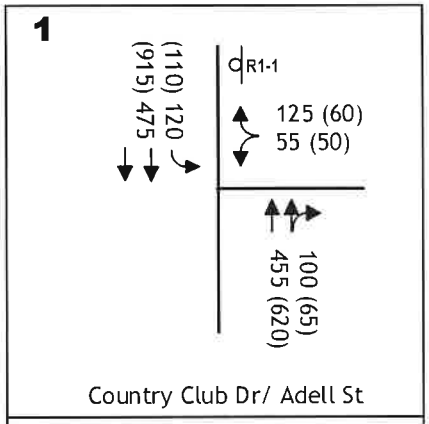
Roadway Improvements. The General Plan identifies Adell Street as a collector street. The City's collector street standard includes two through lanes in each direction and a center turn lane. The most recent Capital Improvement Program identifies two underground utility projects along Adell Street, and there is no identified project in the CIP or the General Plan identifying the widening of Adell Street. Therefore, it is assumed that no roadway improvements will be completed by 2042.

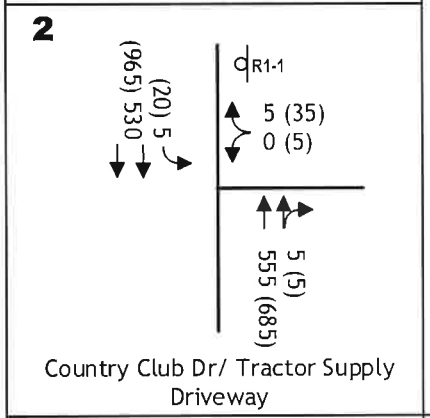
Intersection Levels of Service. Future growth in Madera will generally increase traffic volumes along the study roadways. Table 7 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in the Cumulative 2042 "no project" condition. All intersections are projected to operate within the City's LOS threshold. The Country Club Drive / Adell Street intersection will continue to meet the peak hour warrant under both a.m. and p.m. conditions.

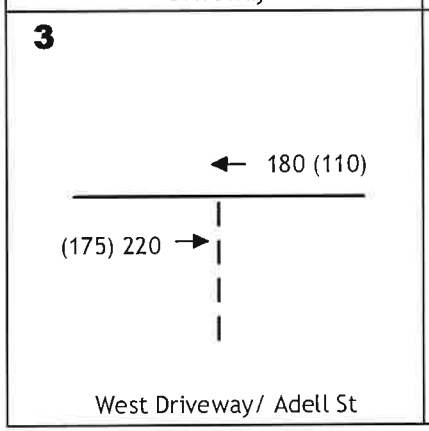
Cumulative 2042 Plus Project Traffic Conditions

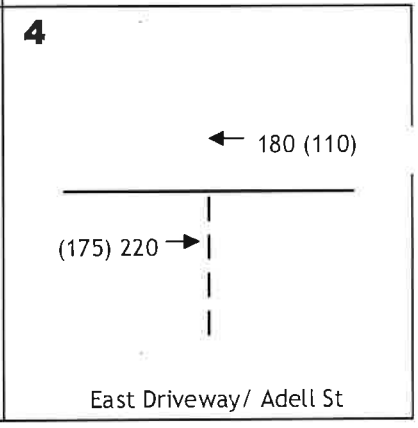
Intersection Levels of Service. Figure 9 presents the projected intersection turning movement volumes under the 2042 plus Project scenario. Table 7 displays the resulting a.m. and p.m. peak hour Levels of Service at each study intersection with the project. The Country Club Drive / Adell Street intersection will operate at LOS E along the westbound Adell Street approach in the a.m. peak hour and LOS D in the p.m. peak hour. The remaining intersections will operate at LOS C or better during both peak periods. The Country Club Drive / Adell Street intersection will continue to meet the peak hour warrant under both a.m. and p.m. conditions.

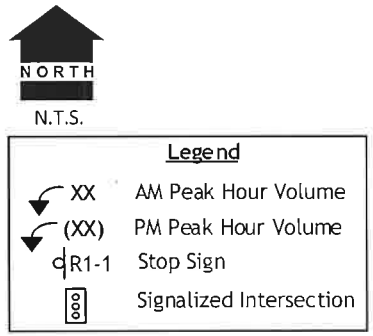












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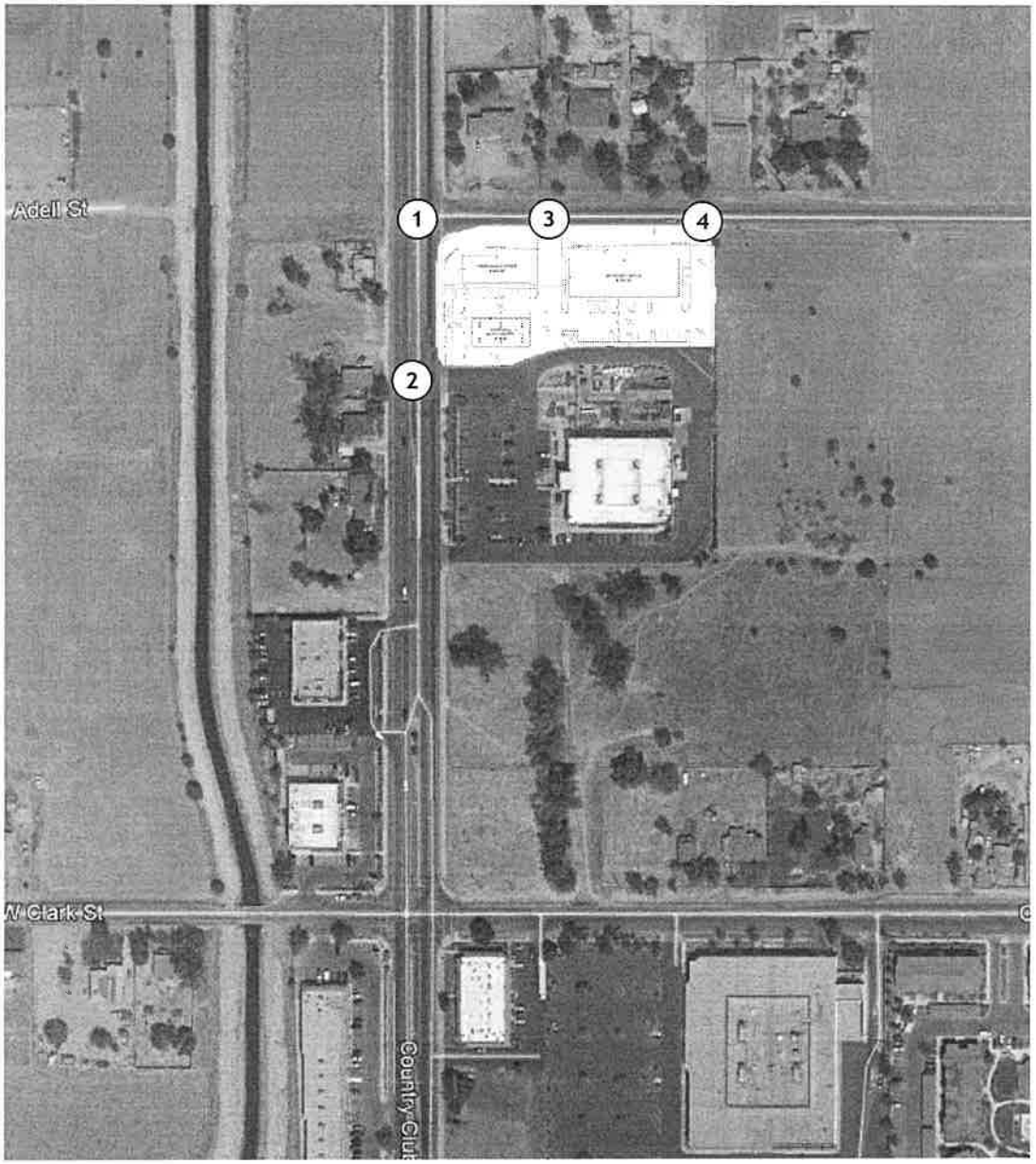
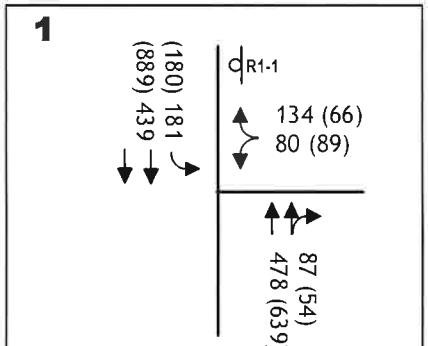
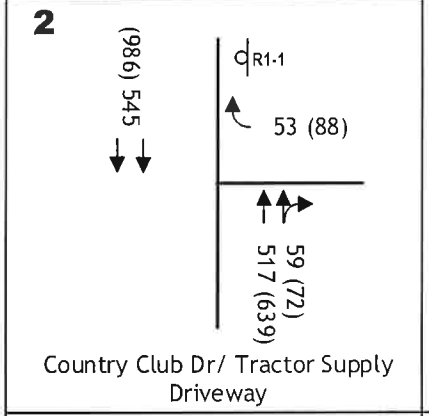
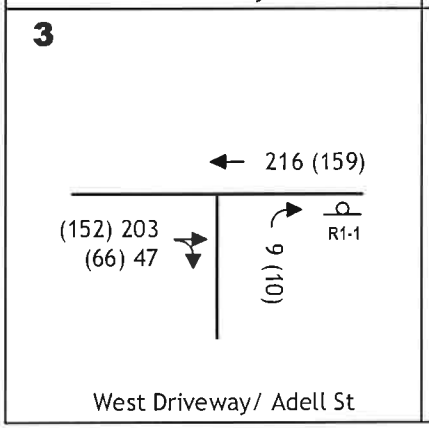
CUMULATIVE TRAFFIC VOLUMES AND LANE CONFIGURATIONS

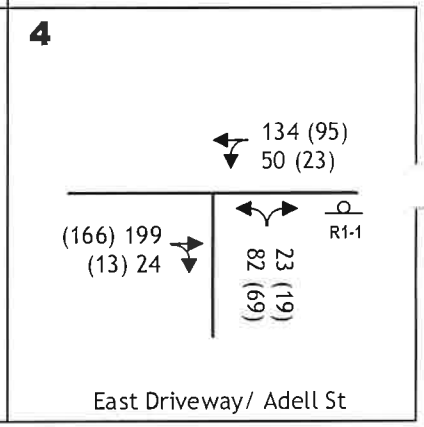
figure 8











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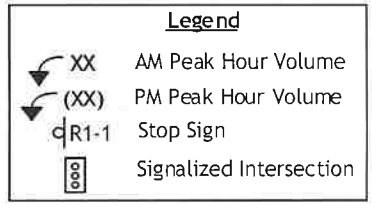


CUMULATIVE PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

TABLE 7
2042 PEAK HOUR INTERSECTION LEVELS OF SERVICE

Location	Control	2042 AM Peak Hour		2042 PM Peak Hour		2042 + Project AM Peak Hour		2042 + Project PM Peak Hour		Peak Hour Warrant Met?
		LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	LOS	Average Delay (secs)	
1. Country Club Drive /Adell Street										Yes
SB Left	WB Stop	B	10.3	A	9.7	B	11.1	B	10.3	
WB		C	21.0	C	16.7	E	**39.0**	D	**25.6**	
2. Country Club Drive /TSC Driveway										No
SB Left	WB Stop	A	9.2	A	9.3	N/A	N/A	N/A	N/A	
WB		B	10.8	B	13.8	B	11.6	B	11.8	
3. Adell Street / West Driveway										No
NB Right	NB Stop	---	---	---	---	B	10.0	A	9.3	
4. Adell Street / East Driveway										No
NB	NB Stop	---	---	---	---	B	14.4	B	11.2	
WB Left		---	---	---	---	A	8.0	A	7.7	

Bold indicates City LOS threshold exceeded
N/A – movement removed with project

IMPACT SUMMARY / MITIGATION MEASURES – RECOMMENDED IMPROVEMENTS

The preceding analysis has identified project impacts that may occur without mitigation or recommended improvements. The text that follows identifies a strategy for mitigating the impacts of the proposed project. Recommendations are identified for facilities that require mitigation but are not a result of the proposed project. If the project causes a significant inconsistency with the General Plan, recommended improvements are identified for the facility.

Existing Conditions

All intersections will operate within accepted City of Madera LOS thresholds; however, the Country Club Drive / Adell Street intersection will meet the peak hour signal warrant. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal. As the intersection operates acceptably, no recommendations are made.

Existing Plus Project Conditions

All intersections except the Country Club Drive / Adell Street will operate within accepted City of Madera LOS thresholds. This intersection will operate at LOS E along Adell Street in the a.m. peak hour. While the peak hour signal warrant is met, the meeting of a signal warrant does not necessitate installation of a traffic signal.

The following recommended improvements are identified:

- Adell Street is identified in the General Plan as a collector street. The City's Collector Street standard cross section includes two through lanes and a center turn lane. The existing Adell Street approach includes a single left-through lane. The project should install frontage half-street improvements and restripe Adell Street to include the separate westbound left and right turn lanes. This will improve the intersection to LOS C conditions.

- The project shall contribute its fair share to the cost of circulation improvements via the existing Citywide traffic impact mitigation (TIM) fee program.

Existing plus Approved Projects (EPAP) Conditions

All intersections will continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection will continue to meet the peak hour signal warrant. As the intersection operates acceptably, no recommendations are made.

EPAP Plus Project Conditions

The Country Club Drive / Adell Street will operate at LOS E, below the City's LOS threshold. As identified in the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right turn lanes at

Country Club Drive will continue to maintain LOS C conditions at the Country Club Drive / Adell Street intersection. No additional recommended improvements are identified.

2042 Conditions

All intersections will continue to operate within accepted City of Madera LOS thresholds. The Country Club Drive / Adell Street intersection will continue to meet the peak hour signal warrant. As the intersection operates acceptably, no recommendations are made.

2042 Conditions with Project

The Country Club Drive / Adell Street will operate at LOS E, below the City's LOS threshold. As identified in the Existing plus Project conditions, the installation of the half-street improvements and restriping of Adell Street to include westbound left and right turn lanes at Country Club Drive will continue to maintain LOS C conditions at the Country Club Drive / Adell Street intersection. No additional recommended improvements are identified.

REFERENCES

1. ITE *Trip Generation*, 10th Edition, 2017
2. California Manual of Uniform Traffic Control Devices, November, 2014
3. Transportation Research Board, *Highway Capacity Manual*, 6th Edition
4. *City of Madera General Plan, Circulation and Infrastructure Element*, October 7, 2009.
5. *City of Madera Capital Improvement Program, 2019/20 – 2023/24.*
6. *City of Madera Standard Drawings and Specifications* August, 2008.
7. *Technical Advisory on Evaluating Transportation Impacts in CEQA*, California Office of Planning and Research, December 2018.

APPENDIX

Prepared by National Data & Surveying Services

Country Club Dr & Adell St

Peak Hour Turning Movement Count

ID: 20-07077-001
City: Madera

Day: Tuesday
Date: 03/03/2020

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Country Club Dr — SOUTHBOUND

AM	0	437	121	0	476	AM
NOON	0	0	0	0	0	NOON
PM	0	588	82	0	538	PM

Adell St — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

Adell St — WESTBOUND

PM	NOON	AM	
50	0	114	0
0	0	0	0
37	0	54	0
0	0	0	0
134	0	211	
PM	NOON	AM	

CONTROL

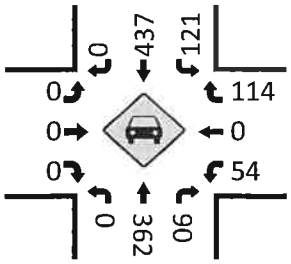
1-Way Stop (WB)

TEV	1178 AM	0 NOON	1297 PM
PHF	0.73		0.95

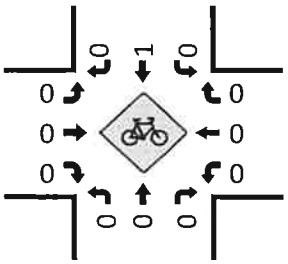
Country Club Dr — NORTHBOUND

PM	625	0	0	488	52	PM
NOON	0	0	0	0	0	NOON
AM	491	0	0	362	90	AM

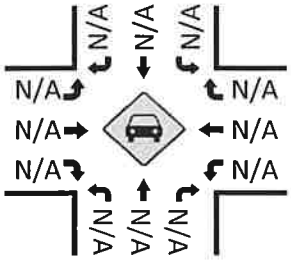
Total Vehicles (AM)



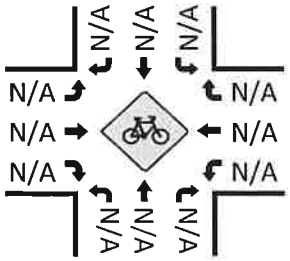
Bikes (AM)



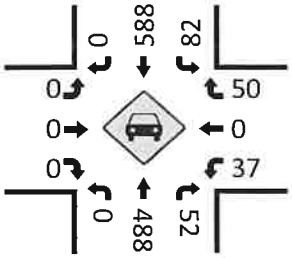
Total Vehicles (Noon)



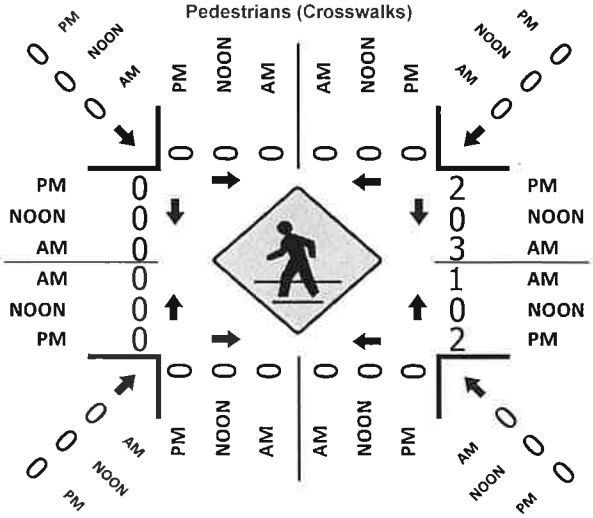
Bikes (NOON)



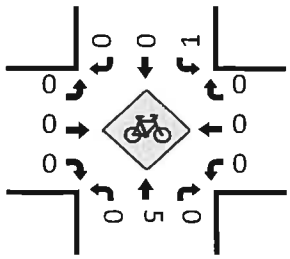
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Adell St
City: Madera
Control: 1-Way Stop (WB)

Project ID: 20-07077-001
Date: 3/3/2020

Total

NS/EW Streets:	Country Club Dr				Country Club Dr				Adell St				Adell St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	38	0	0	10	59	0	0	0	0	0	0	4	0	5	0	116
7:15 AM	0	67	12	0	16	96	0	0	0	0	0	0	14	0	14	0	219
7:30 AM	0	108	32	0	39	95	0	0	0	0	0	0	12	0	35	0	321
7:45 AM	0	118	40	0	52	141	0	0	0	0	0	0	15	0	38	0	404
8:00 AM	0	69	6	0	14	105	0	0	0	0	0	0	13	0	27	0	234
8:15 AM	0	77	6	0	4	82	0	0	0	0	0	0	7	0	6	0	182
8:30 AM	0	61	2	0	3	66	0	0	0	0	0	0	5	0	7	0	144
8:45 AM	0	62	8	0	6	80	0	0	0	0	0	0	8	0	5	0	169
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	600	106	0	144	724	0	0	0	0	0	0	78	0	137	0	1789
APPROACH %'s :	0.00%	84.99%	15.01%	0.00%	16.59%	83.41%	0.00%	0.00%					36.28%	0.00%	63.72%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	362	90	0	121	437	0	0	0	0	0	0	54	0	114	0	1178
PEAK HR FACTOR :	0.000	0.767	0.563	0.000	0.582	0.775	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.000	0.750	0.000	0.729
		0.715				0.723								0.792			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	120	17	0	15	145	0	0	0	0	0	0	5	0	14	0	316
4:15 PM	0	123	9	0	22	170	0	0	0	0	0	0	11	0	7	0	342
4:30 PM	0	124	8	0	17	151	0	0	0	0	0	0	6	0	13	0	319
4:45 PM	0	117	19	0	26	136	0	0	0	0	0	0	9	0	12	0	319
5:00 PM	0	124	16	0	17	131	0	0	0	0	0	0	11	0	18	0	317
5:15 PM	0	143	11	0	16	132	0	0	0	0	0	0	11	0	12	0	325
5:30 PM	0	119	14	0	8	119	0	0	0	0	0	0	15	0	16	0	291
5:45 PM	0	103	12	0	22	104	0	0	0	0	0	0	9	0	15	0	265
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	973	106	0	143	1088	0	0	0	0	0	0	77	0	107	0	2494
APPROACH %'s :	0.00%	90.18%	9.82%	0.00%	11.62%	88.38%	0.00%	0.00%					41.85%	0.00%	58.15%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	488	52	0	82	588	0	0	0	0	0	0	37	0	50	0	1297
PEAK HR FACTOR :	0.000	0.984	0.684	0.000	0.788	0.865	0.000	0.000	0.000	0.000	0.000	0.000	0.841	0.000	0.694	0.000	0.948
		0.964				0.872								0.750			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Adell St
City: Madera
Control: 1-Way Stop (WB)

Project ID: 20-07077-001
Date: 3/3/2020

Bikes

NS/EW Streets:	Country Club Dr				Country Club Dr				Adell St				Adell St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	2	1	0	0	0	0	0	0	0	0	0	0	9
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%									
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
PEAK HR FACTOR :	0.00	0.625	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
		0.625			0.250												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Adell St
City: Madera

Project ID: 20-07077-001
Date: 3/3/2020

Pedestrians (Crosswalks)

NS/EW Streets:	Country Club Dr		Country Club Dr		Adell St		Adell St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	1	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	3	0	0	4
APPROACH %'s :					25.00%	75.00%			
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	1	3	0	0	4
PEAK HR FACTOR :					0.250	0.750			1.000
					1.000				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	1	0	0	1	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	1	2	0	0	3
5:15 PM	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	0	3	3	0	0	7
APPROACH %'s :	0.00%	100.00%			50.00%	50.00%			
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	0	0	0	2	2	0	0	4
PEAK HR FACTOR :					0.500	0.250			0.333
					0.333				

Prepared by National Data & Surveying Services

Country Club Dr & Tractor supply Dwy

Peak Hour Turning Movement Count

ID: 20-07077-002
City: Madera

Day: Tuesday
Date: 03/03/2020

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Country Club Dr

AM	0	488	2	0	450	AM
NOON	0	0	0	0	0	NOON
PM	0	621	12	0	533	PM

EASTBOUND — Tractor supply Dwy

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

WESTBOUND — Tractor supply Dwy

PM	NOON	AM
28	0	5
0	0	0
4	0	0
0	0	0
13	0	3

NORTHBOUND — Country Club Dr

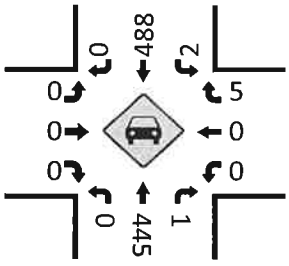
PM	625	0	0	505	1
NOON	0	0	0	0	0
AM	488	0	0	445	1

CONTROL

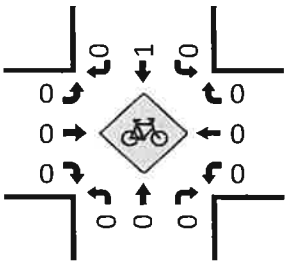
1-Way Stop (WB)

TEV	941 AM	0 NOON	1171 PM
PHF	0.76		0.94

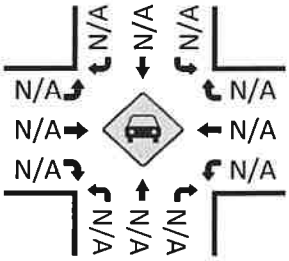
Total Vehicles (AM)



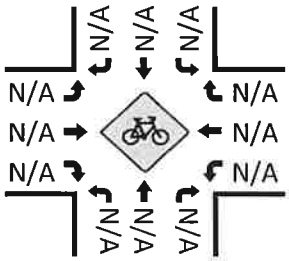
Bikes (AM)



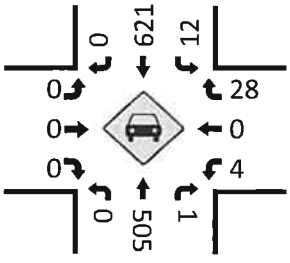
Total Vehicles (Noon)



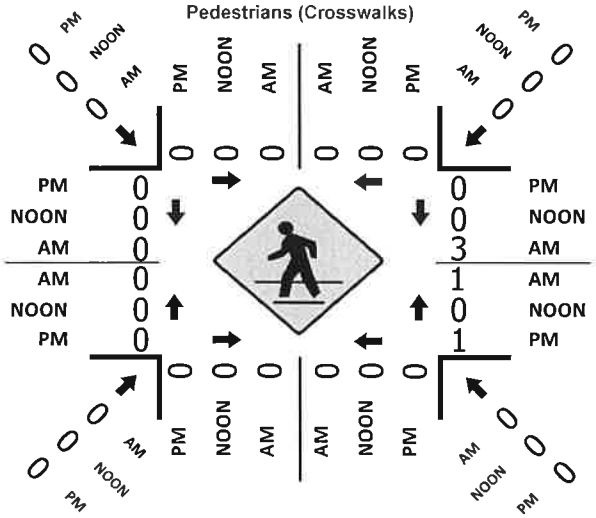
Bikes (NOON)



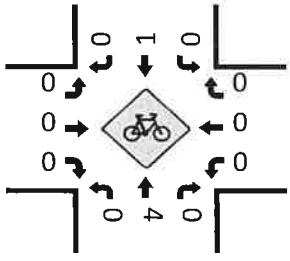
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Tractor supply Dwy
City: Madera
Control: 1-Way Stop (WB)

Project ID: 20-07077-002
Date: 3/3/2020

Total

NS/EW Streets:	Country Club Dr				Country Club Dr				Tractor supply Dwy				Tractor supply Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	36	0	0	0	60	0	0	0	0	0	0	0	0	1	0	97
7:15 AM	0	79	0	0	0	108	0	0	0	0	0	0	0	0	0	0	187
7:30 AM	0	141	0	0	1	108	0	0	0	0	0	0	0	0	0	0	250
7:45 AM	0	155	0	0	0	154	0	0	0	0	0	0	0	0	1	0	310
8:00 AM	0	70	1	0	1	118	0	0	0	0	0	0	0	0	4	0	194
8:15 AM	0	79	0	0	0	87	0	0	0	0	0	0	1	0	4	0	171
8:30 AM	0	64	0	0	1	74	0	0	0	0	0	0	0	0	1	0	140
8:45 AM	0	67	0	0	1	88	0	0	0	0	0	0	0	0	3	0	159
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	691	1	0	4	797	0	0	0	0	0	0	1	0	14	0	1508
APPROACH %'s :	0.00%	99.86%	0.14%	0.00%	0.50%	99.50%	0.00%	0.00%					6.67%	0.00%	93.33%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	445	1	0	2	488	0	0	0	0	0	0	0	0	5	0	941
PEAK HR FACTOR :	0.000	0.718	0.250	0.000	0.500	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.000	0.759
		0.719				0.795								0.313			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	126	0	0	3	145	0	0	0	0	0	0	1	0	11	0	286
4:15 PM	0	126	0	0	4	178	0	0	0	0	0	0	1	0	4	0	313
4:30 PM	0	128	0	0	3	151	0	0	0	0	0	0	1	0	6	0	289
4:45 PM	0	125	1	0	2	147	0	0	0	0	0	0	1	0	7	0	283
5:00 PM	0	138	2	0	2	137	0	0	0	0	0	0	0	0	6	0	285
5:15 PM	0	147	1	0	1	148	0	0	0	0	0	0	1	0	10	0	308
5:30 PM	0	126	0	0	2	121	0	0	0	0	0	0	1	0	3	0	253
5:45 PM	0	115	0	0	0	120	0	0	0	0	0	0	1	0	2	0	238
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1031	4	0	17	1147	0	0	0	0	0	0	7	0	49	0	2255
APPROACH %'s :	0.00%	99.61%	0.39%	0.00%	1.46%	98.54%	0.00%	0.00%					12.50%	0.00%	87.50%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	505	1	0	12	621	0	0	0	0	0	0	4	0	28	0	1171
PEAK HR FACTOR :	0.000	0.986	0.250	0.000	0.750	0.872	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.636	0.000	0.935
		0.988				0.870								0.667			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Tractor supply Dwy
City: Madera
Control: 1-Way Stop (WB)

Project ID: 20-07077-002
Date: 3/3/2020

Bikes

NS/EW Streets:	Country Club Dr				Country Club Dr				Tractor supply Dwy				Tractor supply Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.00	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625
		0.500				0.250											

National Data & Surveying Services

Intersection Turning Movement Count

Location: Country Club Dr & Tractor supply Dwy
City: Madera

Project ID: 20-07077-002
Date: 3/3/2020

Pedestrians (Crosswalks)

NS/EW Streets:	Country Club Dr		Country Club Dr		Tractor supply Dwy		Tractor supply Dwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	1	0	0	0	1
8:00 AM	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	3	0	0	4
APPROACH %'s :					25.00%	75.00%			
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	1	3	0	0	4
PEAK HR FACTOR :					0.250	0.750			1.000
					1.000				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	2	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	2	2	0	0	4
APPROACH %'s :					50.00%	50.00%			
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :					0.250				0.250
					0.250				

KDA

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	114	362	90	121	437
Future Vol, veh/h	54	114	362	90	121	437
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	156	496	123	166	599

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1190	310	0	0	619	0
Stage 1	558	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	180	686	-	-	957	-
Stage 1	537	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	149	686	-	-	957	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.1	0	2.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	957	-
HCM Lane V/C Ratio	-	-	0.495	0.173	-
HCM Control Delay (s)	-	-	20.1	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.7	0.6	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↱		↰	↑↑
Traffic Vol, veh/h	0	5	445	1	2	488
Future Vol, veh/h	0	5	445	1	2	488
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	586	1	3	642

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	294	0	0	587	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	702	-	-	984	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	702	-	-	984	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	702	984	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	10.2	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	50	488	52	82	588
Future Vol, veh/h	37	50	488	52	82	588
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	53	514	55	86	619

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1024	285	0	0	569	0
Stage 1	542	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	231	712	-	-	999	-
Stage 1	547	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	211	712	-	-	999	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	537	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	999	-
HCM Lane V/C Ratio	-	-	0.187	0.086	-
HCM Control Delay (s)	-	-	14.1	8.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	28	505	1	12	621
Future Vol, veh/h	4	28	505	1	12	621
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	30	537	1	13	661

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	895	269	0	0	538	0
Stage 1	538	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	280	729	-	-	1026	-
Stage 1	549	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	729	-	-	1026	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1026	-
HCM Lane V/C Ratio	-	-	0.056	0.012	-
HCM Control Delay (s)	-	-	11.3	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	123	385	77	179	401
Future Vol, veh/h	79	123	385	77	179	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	168	527	105	245	549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1345	316	0	0	632	0
Stage 1	580	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	143	680	-	-	947	-
Stage 1	523	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 106	680	-	-	947	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	311	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37	0	3.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	376	947	-
HCM Lane V/C Ratio	-	-	0.736	0.259	-
HCM Control Delay (s)	-	-	37	10.1	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	5.7	1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	53	407	55	0	503
Future Vol, veh/h	0	53	407	55	0	503
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	536	72	0	662

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	304	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	692	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	692	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	692	-
HCM Lane V/C Ratio	-	-	0.101	-
HCM Control Delay (s)	-	-	10.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↑		↱
Traffic Vol, veh/h	194	44	0	204	0	9
Future Vol, veh/h	194	44	0	204	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	266	48	0	279	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	290
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	749
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	749
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	749	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↰	Y	
Traffic Vol, veh/h	190	24	50	122	82	23
Future Vol, veh/h	190	24	50	122	82	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	260	26	54	167	89	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	286	0	548	273
Stage 1	-	-	-	-	273	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1276	-	497	766
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1276	-	474	766
Mov Cap-2 Maneuver	-	-	-	-	474	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	517	-	-	1276	-
HCM Lane V/C Ratio	0.221	-	-	0.043	-
HCM Control Delay (s)	13.9	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	56	507	41	144	562
Future Vol, veh/h	76	56	507	41	144	562
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	59	534	43	152	592

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1156	289	0	0	577	0
Stage 1	556	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	190	708	-	-	993	-
Stage 1	538	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	161	708	-	-	993	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	433	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	388	993	-
HCM Lane V/C Ratio	-	-	0.358	0.153	-
HCM Control Delay (s)	-	-	19.4	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.5	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	81	459	68	0	642
Future Vol, veh/h	0	81	459	68	0	642
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	86	488	72	0	683

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	280	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	717	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	717	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	717	-
HCM Lane V/C Ratio	-	-	0.12	-
HCM Control Delay (s)	-	-	10.7	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↑		↱
Traffic Vol, veh/h	111	58	0	136	0	10
Future Vol, veh/h	111	58	0	136	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	63	0	148	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	153
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	893
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	893
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	893	-	-	-
HCM Lane V/C Ratio	0.012	-	-	-
HCM Control Delay (s)	9.1	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	13	23	72	68	19
Future Vol, veh/h	125	13	23	72	68	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	14	25	78	74	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	150	0	271	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1431	-	718	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1431	-	705	905
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	741	-	-	1431	-
HCM Lane V/C Ratio	0.128	-	-	0.017	-
HCM Control Delay (s)	10.6	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	114	366	93	121	448
Future Vol, veh/h	63	114	366	93	121	448
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	156	501	127	166	614

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1204	314	0	0	628	0
Stage 1	565	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	177	682	-	-	950	-
Stage 1	532	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	682	-	-	950	-
Mov Cap-2 Maneuver	274	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.3	0	2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	446	950	-
HCM Lane V/C Ratio	-	-	0.544	0.174	-
HCM Control Delay (s)	-	-	22.3	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	3.2	0.6	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	452	1	2	508
Future Vol, veh/h	0	5	452	1	2	508
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	595	1	3	668

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	298	0	0	596	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	698	-	-	976	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	698	-	-	976	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	698	976	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	10.2	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	50	500	62	82	595
Future Vol, veh/h	43	50	500	62	82	595
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	53	526	65	86	626

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1044	296	0	0	591	0
Stage 1	559	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	225	700	-	-	981	-
Stage 1	536	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	700	-	-	981	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	468	981	-
HCM Lane V/C Ratio	-	-	0.209	0.088	-
HCM Control Delay (s)	-	-	14.7	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	28	527	1	12	634
Future Vol, veh/h	4	28	527	1	12	634
Conflicting Peds, #/hr	**0**	**0**	**0**	**0**	**0**	**0**
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	125	-
Veh in Median Storage, #	**0**	**-**	**0**	**-**	**-**	**0**
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	30	561	1	13	674

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	925	281	0	0	562	0
Stage 1	562	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	268	716	-	-	1005	-
Stage 1	534	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	716	-	-	1005	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	**11.5**	**0**	**0.2**
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	590	1005	-
HCM Lane V/C Ratio	-	-	0.058	0.013	-
HCM Control Delay (s)	-	-	11.5	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	123	389	80	179	412
Future Vol, veh/h	88	123	389	80	179	412
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	168	533	110	245	564

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1360	322	0	0	643	0
Stage 1	588	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	140	674	-	-	938	-
Stage 1	518	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 103	674	-	-	938	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	45	0	3.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	361	938	-
HCM Lane V/C Ratio	-	-	0.801	0.261	-
HCM Control Delay (s)	-	-	45	10.2	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	6.8	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	53	414	55	0	523
Future Vol, veh/h	0	53	414	55	0	523
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	545	72	0	688

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	309	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	687	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	687	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	687	-
HCM Lane V/C Ratio	-	-	0.102	-
HCM Control Delay (s)	-	-	10.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↑		↱
Traffic Vol, veh/h	197	44	0	213	0	9
Future Vol, veh/h	197	44	0	213	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	270	48	0	292	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	294
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	745
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	745
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	745	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	193	24	50	131	82	23
Future Vol, veh/h	193	24	50	131	82	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	264	26	54	179	89	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	564	277
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	287	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1272	-	487	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1272	-	464	762
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	507	-	-	1272	-
HCM Lane V/C Ratio	0.225	-	-	0.043	-
HCM Control Delay (s)	14.2	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	56	519	51	144	569
Future Vol, veh/h	82	56	519	51	144	569
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	59	546	54	152	599

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1177	300	0	0	600	0
Stage 1	573	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	184	696	-	-	973	-
Stage 1	527	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	696	-	-	973	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.5	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	376	973	-
HCM Lane V/C Ratio	-	-	0.386	0.156	-
HCM Control Delay (s)	-	-	20.5	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.6	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	81	481	68	0	655
Future Vol, veh/h	0	81	481	68	0	655
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	86	512	72	0	697

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	292	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	704	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	704	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	704	-
HCM Lane V/C Ratio	-	-	0.122	-
HCM Control Delay (s)	-	-	10.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↦			↑		↱
Traffic Vol, veh/h	121	58	0	142	0	10
Future Vol, veh/h	121	58	0	142	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	63	0	154	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	164
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	881
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	881
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	881	-	-	-
HCM Lane V/C Ratio	0.012	-	-	-
HCM Control Delay (s)	9.1	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	135	13	23	78	68	19
Future Vol, veh/h	135	13	23	78	68	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	14	25	85	74	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	289	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1418	-	702	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	689	892
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	1418	-
HCM Lane V/C Ratio	0.13	-	-	0.018	-
HCM Control Delay (s)	10.7	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	125	455	100	120	475
Future Vol, veh/h	55	125	455	100	120	475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	171	623	137	164	651

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1346	380	0	0	760	0
Stage 1	692	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	143	618	-	-	848	-
Stage 1	458	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	618	-	-	848	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	387	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	2.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	467	848	-
HCM Lane V/C Ratio	-	-	0.528	0.194	-
HCM Control Delay (s)	-	-	21	10.3	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	3	0.7	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↱		↰	↑↑
Traffic Vol, veh/h	0	5	555	5	5	530
Future Vol, veh/h	0	5	555	5	5	530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	730	7	7	697

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	369	0	0	737	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	628	-	-	865	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	628	-	-	865	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	628	865	-
HCM Lane V/C Ratio	-	-	0.01	0.008	-
HCM Control Delay (s)	-	-	10.8	9.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	60	620	65	110	915
Future Vol, veh/h	50	60	620	65	110	915
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	63	653	68	116	963

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1401	361	0	0	721	0
Stage 1	687	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	131	636	-	-	877	-
Stage 1	461	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	114	636	-	-	877	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	387	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	422	877	-
HCM Lane V/C Ratio	-	-	0.274	0.132	-
HCM Control Delay (s)	-	-	16.7	9.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.5	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	35	685	5	20	965
Future Vol, veh/h	5	35	685	5	20	965
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	37	729	5	21	1027

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1288	367	0	0	734	0
Stage 1	732	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	156	630	-	-	867	-
Stage 1	437	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	630	-	-	867	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	452	867	-
HCM Lane V/C Ratio	-	-	0.094	0.025	-
HCM Control Delay (s)	-	-	13.8	9.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	134	478	87	181	439
Future Vol, veh/h	80	134	478	87	181	439
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	184	655	119	248	601

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1512	387	0	0	774	0
Stage 1	715	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	111	611	-	-	837	-
Stage 1	446	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 78	611	-	-	837	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	284	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39	0	3.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	384	837	-
HCM Lane V/C Ratio	-	-	0.763	0.296	-
HCM Control Delay (s)	-	-	39	11.1	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	6.2	1.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	53	517	59	0	545
Future Vol, veh/h	0	53	517	59	0	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	680	78	0	717

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	379	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	619	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	619	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	619	-
HCM Lane V/C Ratio	-	-	0.113	-
HCM Control Delay (s)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↑		↱
Traffic Vol, veh/h	203	47	0	216	0	9
Future Vol, veh/h	203	47	0	216	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	51	0	296	0	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	304
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	736
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	736
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	736	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	10	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	Y	
Traffic Vol, veh/h	199	24	50	134	82	23
Future Vol, veh/h	199	24	50	134	82	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	92	92	73	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	273	26	54	184	89	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	299	0	578	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1262	-	478	753
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1262	-	455	753
Mov Cap-2 Maneuver	-	-	-	-	455	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	722	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	498	-	-	1262	-
HCM Lane V/C Ratio	0.229	-	-	0.043	-
HCM Control Delay (s)	14.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	66	639	54	180	889
Future Vol, veh/h	89	66	639	54	180	889
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	94	69	673	57	189	936

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1548	365	0	0	730	0
Stage 1	702	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	105	632	-	-	870	-
Stage 1	453	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 82	632	-	-	870	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	298	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.6	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	334	870	-
HCM Lane V/C Ratio	-	-	0.488	0.218	-
HCM Control Delay (s)	-	-	25.6	10.3	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	2.6	0.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	88	639	72	0	986
Future Vol, veh/h	0	88	639	72	0	986
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	94	680	77	0	1049

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	379	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	619	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	619	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	619	-
HCM Lane V/C Ratio	-	-	0.151	-
HCM Control Delay (s)	-	-	11.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.5	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↦			↑		↱
Traffic Vol, veh/h	152	66	0	159	0	10
Future Vol, veh/h	152	66	0	159	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	72	0	173	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	201
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	840
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	840
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	840	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	13	23	95	69	19
Future Vol, veh/h	166	13	23	95	69	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	14	25	103	75	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	194	0	340	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1379	-	656	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1379	-	644	855
Mov Cap-2 Maneuver	-	-	-	-	644	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	858	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	680	-	-	1379	-
HCM Lane V/C Ratio	0.141	-	-	0.018	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	123	385	77	179	401
Future Vol, veh/h	79	123	385	77	179	401
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	168	527	105	245	549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1345	316	0	0	632	0
Stage 1	580	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	143	680	-	-	947	-
Stage 1	523	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 106	680	-	-	947	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	311	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.3	0	3.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	222	680	947	-
HCM Lane V/C Ratio	-	-	0.487	0.248	0.259	-
HCM Control Delay (s)	-	-	35.7	12	10.1	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	2.4	1	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑↱		↰	↑↑
Traffic Vol, veh/h	88	123	389	80	179	412
Future Vol, veh/h	88	123	389	80	179	412
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	168	533	110	245	564

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1360	322	0	0	643	0
Stage 1	588	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	140	674	-	-	938	-
Stage 1	518	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 103	674	-	-	938	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.7	0	3.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	219	674	938	-
HCM Lane V/C Ratio	-	-	0.55	0.25	0.261	-
HCM Control Delay (s)	-	-	39.9	12.1	10.2	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	3	1	1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	134	478	87	181	439
Future Vol, veh/h	80	134	478	87	181	439
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	184	655	119	248	601

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1512	387	0	0	774	0
Stage 1	715	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	111	611	-	-	837	-
Stage 1	446	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 78	611	-	-	837	-
Mov Cap-2 Maneuver	237	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	284	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.6	0	3.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	237	611	837	-
HCM Lane V/C Ratio	-	-	0.462	0.3	0.296	-
HCM Control Delay (s)	-	-	32.6	13.4	11.1	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	2.3	1.3	1.2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳			↑↑
Traffic Vol, veh/h	0	88	639	72	0	986
Future Vol, veh/h	0	88	639	72	0	986
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	94	680	77	0	1049

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	379	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	619	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	619	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	619	-
HCM Lane V/C Ratio	-	-	0.151	-
HCM Control Delay (s)	-	-	11.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.5	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↑		↱
Traffic Vol, veh/h	152	66	0	159	0	10
Future Vol, veh/h	152	66	0	159	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	72	0	173	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	201
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	840
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	840
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	840	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	13	23	95	69	19
Future Vol, veh/h	166	13	23	95	69	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	14	25	103	75	21

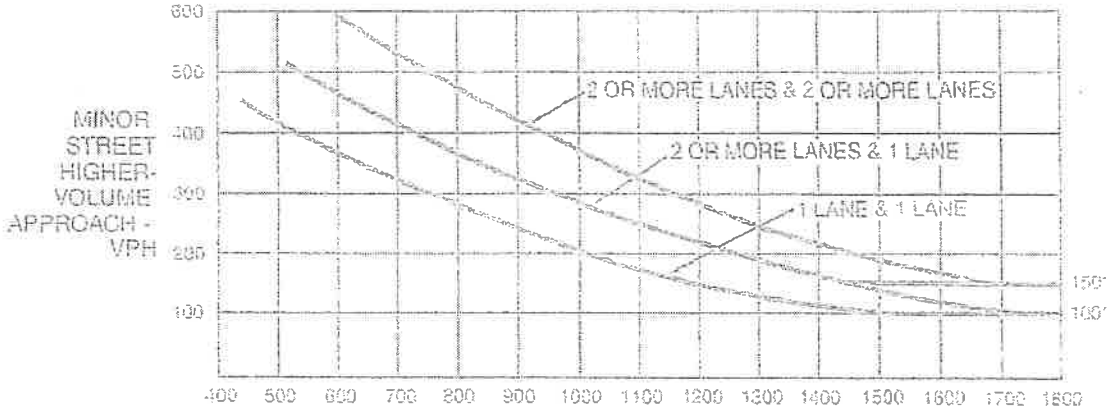
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	194	0	340	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1379	-	656	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1379	-	644	855
Mov Cap-2 Maneuver	-	-	-	-	644	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	858	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	680	-	-	1379	-
HCM Lane V/C Ratio	0.141	-	-	0.018	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

KDA

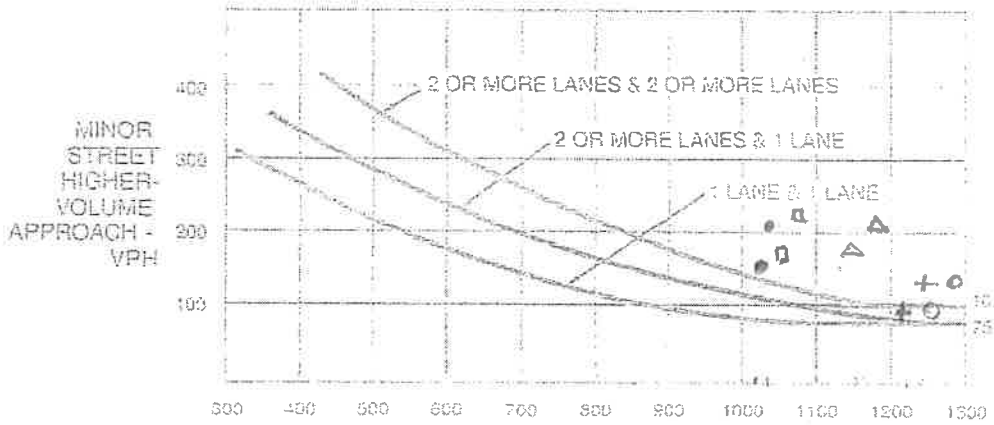
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

	EXIST	PROPOSED
EXIST AM	●	●
EXIST PM	+	+
EPAP AM	□	□
EPAP PM	○	○
CUM AM	△	△
CUM PM	☒	☒

#1
ADELL / COUNTRY CLUB

Figure 4C-3. Warrant 3, Peak Hour

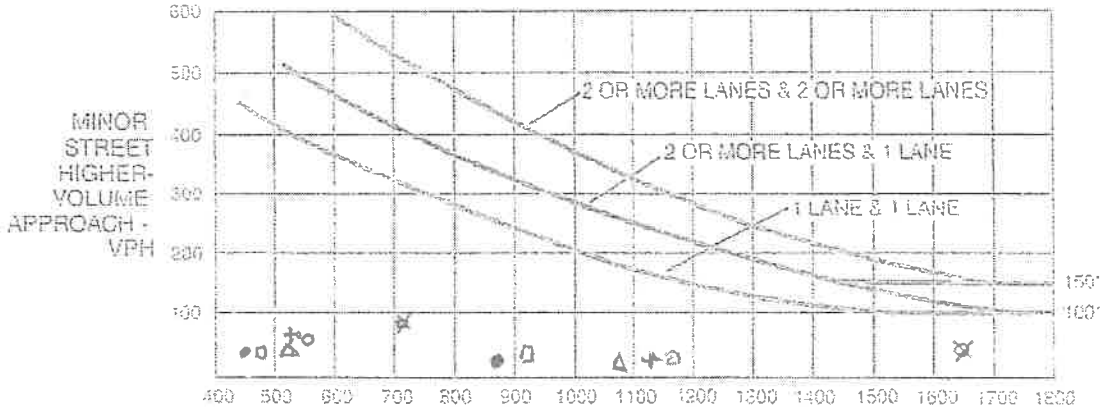


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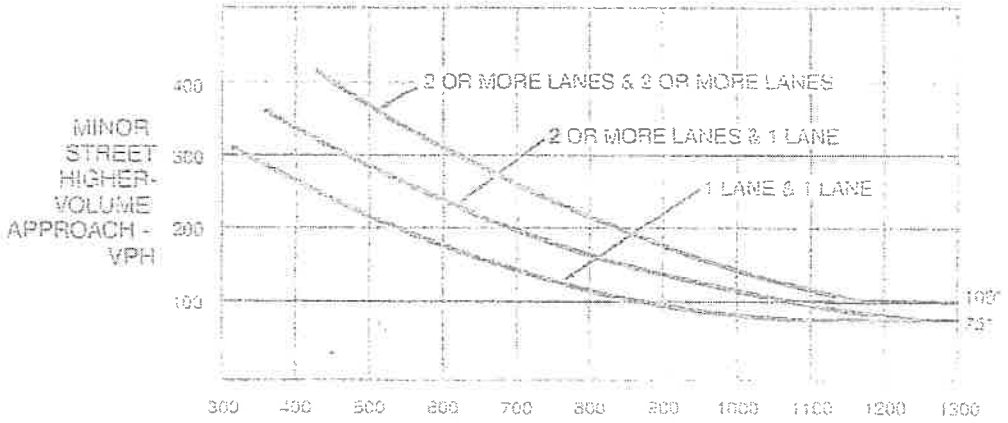
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



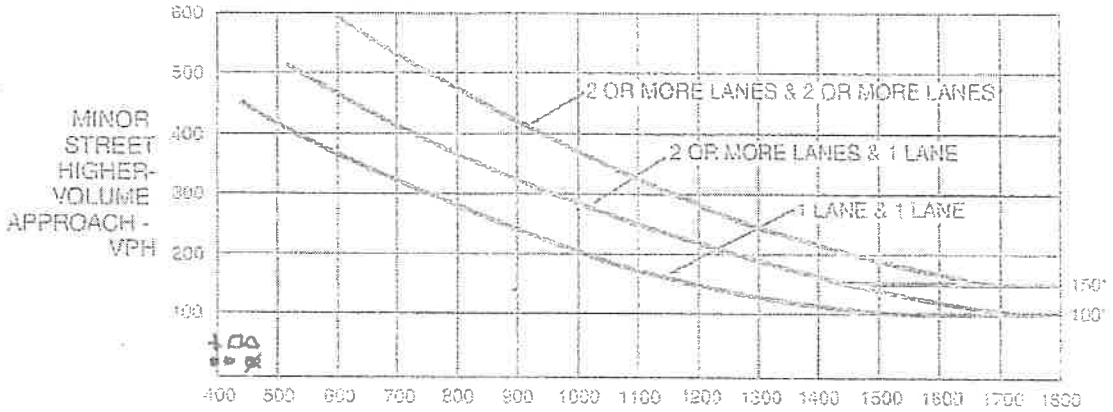
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

EXIST PROPOSED

EXIST AM
EXIST PM
EPAP AM
EPAP PM
CUM AM
CUM PM

COUNTRY CLUB/TSC

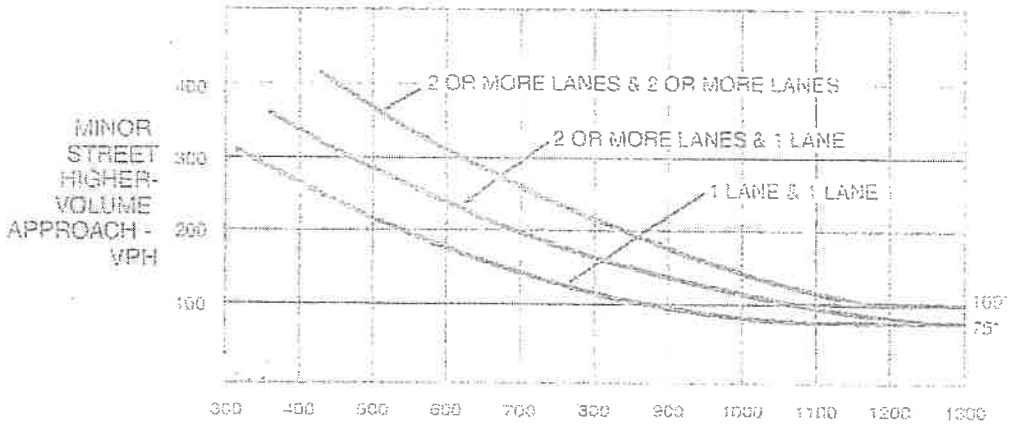
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROPOSED

EXIST AM •
EXIST PM +
EPAP AM □
EPAP PM ○
CUM AM △
CUM PM ☒

ADELL/WEST DW

Figure 4C-3. Warrant 3, Peak Hour

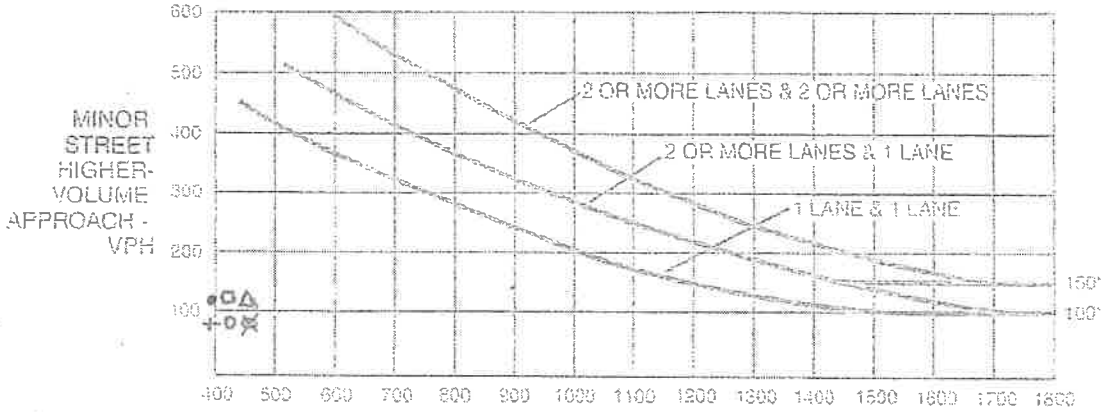


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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

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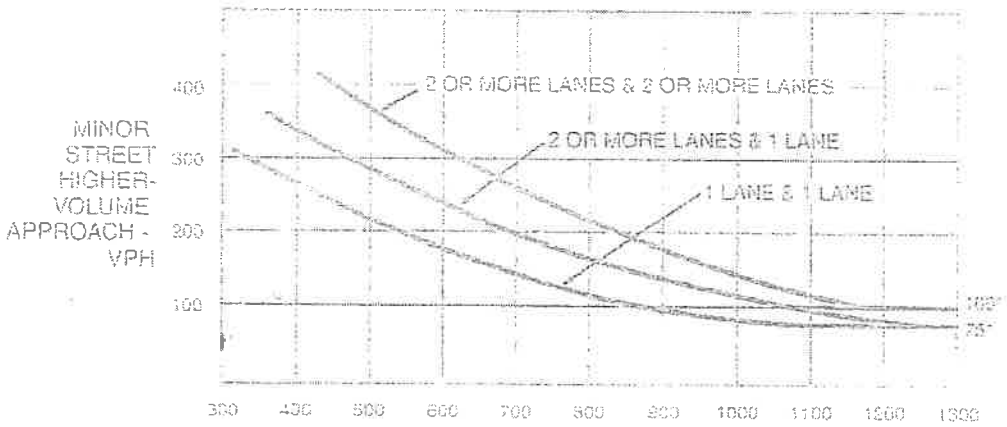

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROPOSED

EXIST AM ●
EXIST PM +
EAP AM □
EAP PM ○
CUM AM △
CUM PM ☒

#4
ABELL EAST DW

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

October 29, 2021

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

Project: Country Club Commercial Center Site Plan Review 2019-25, Conditional Use Permit 2019-19, 2019-20 & 2021-02, Negative Declaration

District CEQA Reference No: 20211145

Dear Mr. Conte:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Negative Declaration for the project referenced above from the City of Madera (City). The project consists of the construction of a convenience store and an accompanying gas station as well as the construction of a coffee shop with a drive through on a 1.37 acre parcel. The Project is located at the south east corner of Country Club Drive and Adell Street, in Madera, CA (APN 003-250-026). The District offers the following comments:

1) Reducing Air Quality Impacts from Construction Activities

The Negative Declaration determined that the construction emissions would have a less than significant impacts. Although Project construction emissions are less than significant, the District recommends that the City advise that the project proponent further reduce impacts from construction-related diesel exhaust emissions by utilizing clean off-road construction equipment, including the latest tier equipment as feasible.

2) Vegetative Barriers and Urban Greening

The Project is located in a rural area in Madera and is surrounded by mix land use development. More specifically, there are single family residential units and a Tractor Supply Co. store immediately to the south. The District suggests the City consider the

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org www.healthyairliving.com

feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (i.e. church and school).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the uptake of gaseous pollutants. Examples of vegetative barriers include, but not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought resistant low maintenance greenery.

3) Clean Lawn and Garden Equipment in the Community

Since the Project consists of commercial development, gas-powered commercial lawn and garden equipment have the potential to result in an increase of NOx and PM2.5 emissions. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District recommends the Project proponent consider the District's Clean Green Yard Machines (CGYM) program which provides incentive funding for replacement of existing gas powered lawn and garden equipment.

More information on the District CGYM program and funding can be found at: http://www.valleyair.org/grants/cgym.htm
and http://valleyair.org/grants/cgym-commercial.htm.

4) Under-fired Charbroilers

The proposed development project includes retail use on the ground floor, which may potentially be occupied by restaurants. Should restaurants with under-fired charbroilers move in, the charbroilers may pose the potential for immediate health risk, particularly when located in densely developed locations near sensitive receptors. Since the cooking of meat can release carcinogenic PM2.5 species like polycyclic aromatic hydrocarbons, controlling emissions from new under-fired charbroilers will have a substantial positive impact on public health. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. As mentioned above, the Project is located in an urban area with commercial and office buildings immediately adjacent to the Project. A church and a high school is located northwest and south of the Project. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises environmental concerns.

Furthermore, reducing commercial charbroiling emissions is essential to achieving attainment of multiple federal PM2.5 standards and associated health benefits in the Valley. Therefore, the District recommends that if the Project includes the installation of an under-fired charbroiler, a measure should be included requiring the assessment and potential installation, as technologically feasible, of particulate matter emission control systems for the Project. The District is available to assist the City with this assessment. Additionally, to ease the financial burden for Valley businesses, the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing, and maintaining the system for up to two years. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information.

5) Solar Deployment in the Community

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the Project proponent consider the feasibility of incorporating solar power systems, as an emission reduction strategy for this Project.

6) Charge Up! Electric Vehicle Charger

To support further installation of electric vehicle charging equipment and development of such infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of this incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles. The District suggests that the City and Project proponent consider the feasibility of installing electric vehicle chargers for this Project.

Please visit www.valleyair.org/grants/chargeup.htm for more information.

7) District Rules and Regulation

The District issues permits for many types of air pollution sources and regulates some activities not requiring permits. A project subject to District rules and regulation would reduce its impacts on air quality through compliance with regulatory requirements. In general, a regulation is a collection of rules, each of which deals with a specific topic. Here are a couple of examples, Regulation II (Permits) deals with permitting emission sources and includes rules such as District permit requirements (Rule 2010), New and Modified Stationary Source Review (Rule 2201), and implementation of Emission Reduction Credit Banking (Rule 2301).

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District

rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888

7a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 requires that new and modified stationary sources of emissions mitigate their emissions using best available control technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits.

Prior to commencing construction on any permit-required equipment or process, a finalized Authority to Construct (ATC) must be issued to the Project proponent by the District. For further information or assistance, the project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888

7b) District Rule 9510 (Indirect Source Review)

The purpose of District Rule 9510 (Indirect Source Review) is to reduce the growth in both NOx and PM10 emissions associated with development and transportation projects from mobile and area sources associated with construction and operation of development projects. The rule encourages clean air design elements to be incorporated into the development project. In case the proposed project clean air design elements are insufficient to meet the targeted emission reductions, the rule requires developers to pay a fee used to fund projects to achieve off-site emissions reductions.

The proposed Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 2,000 square feet of commercial space. When subject to the rule, an Air Impact Assessment (AIA) application is required prior to applying for project-level approval from a public agency. In this case, if not already done, please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510.

An AIA application is required and the District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of Project approval.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

7c) Other District Rules and Regulations

The Project may also be subject to the following District rules: (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

8) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at Matt.Crow@valleyair.org or by phone at (559) 230-5931.

Sincerely,

Brian Clements
Director of Permit Services

For Mark Montelongo
Program Manager