

Initial Study/Mitigated Negative Declaration

# Cameron Creek Residential Development

Prepared for:



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## PROJECT INFORMATION

This document is the Initial Study/Mitigated Negative Declaration on the potential environmental effects of the City of Farmersville (City) Cameron Creek Residential Project (Project). The City of Farmersville will act as the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines. Copies of all materials referenced in this report are available for review in the project file during regular business hours at 909 W. Visalia Road, Farmersville, CA 93223.

### Project title

Cameron Creek Residential Project

### Lead agency name and address

City of Farmersville  
909 W. Visalia Road  
Farmersville, California 93223

### Contact person and phone number

Karl Schoettler, City Planner  
City of Farmersville: (559) 734-8737 ext. 8032

### Project location

The City of Farmersville is located in Tulare County in the northern part of the San Joaquin Valley, east of the City of Visalia (see Figure 1). The 36.51-acre proposed Project site is located at the northwest corner of Visalia Road and Virginia Avenue in the southwestern portion of the City of Farmersville, California (see Figure 2) and the site would occupy Assessor's Parcel Numbers (APN) 128-330-001 and 128-320-003. State Route 198 runs east-west through Farmersville, approximately 1.7 miles north of the Project site.

Figure 1 – Location

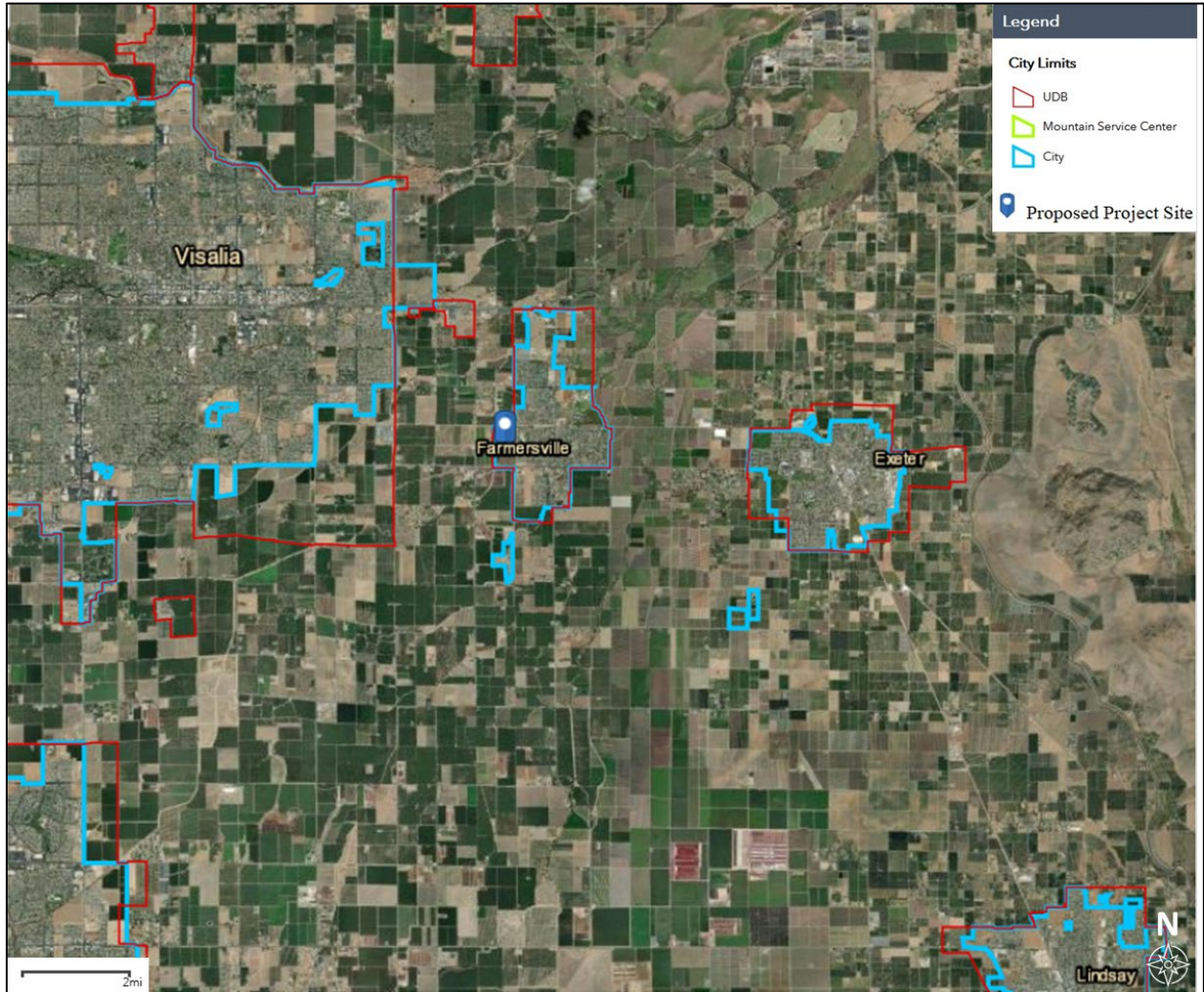
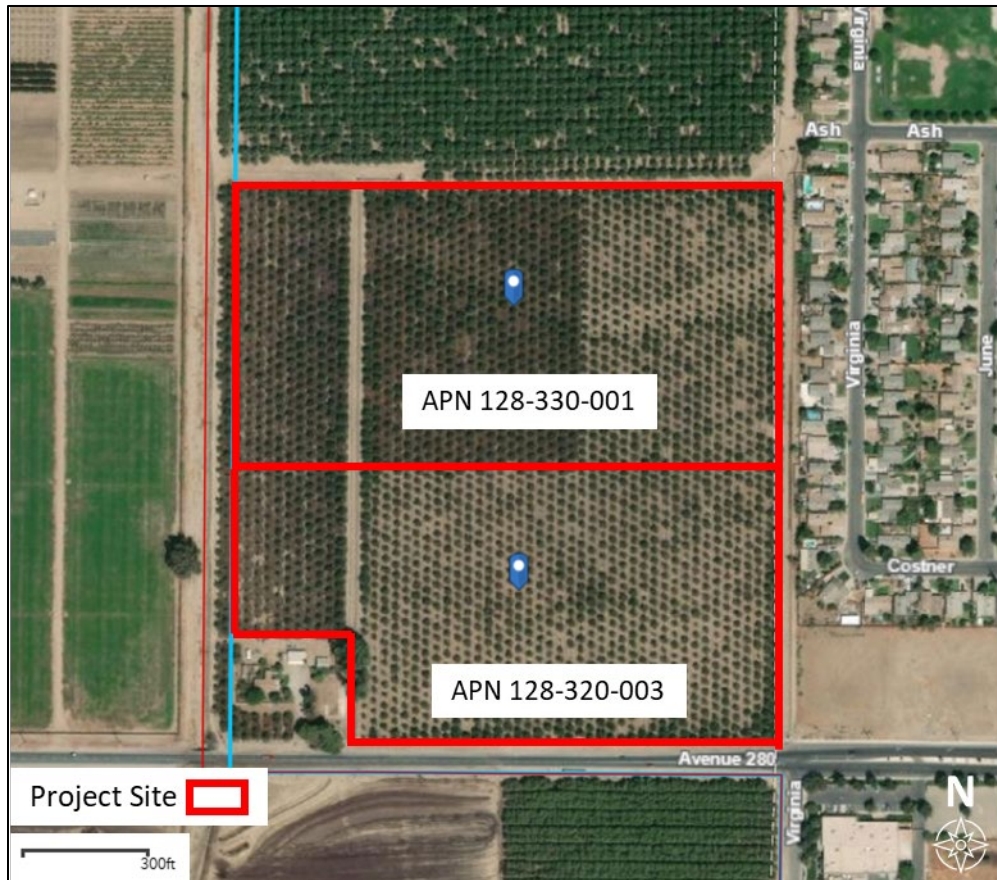


Figure 2 – Site Aerial



## Project sponsor's name/address

Smee Homes  
444 N. Prospect Suite A  
Fresno, CA 93722

## General plan designation

Medium Density Residential and General Commercial

## Zoning

R-1-PD and C-G PD

## Project Description

The Cameron Creek Residential Project (proposed Project) consists of General Plan Land Use Amendment, Zone Change, Conditional Use Permit, and approval of a Tentative Subdivision Map to allow for a 151-unit residential development in the City of Farmersville. Specifically, the proposed Project includes:

- Approve a General Plan Amendment for:
  - the portion designated General Commercial to Medium High Density Residential on the Farmersville General Plan land use map.
  - the proposed trail portion of site designated Medium Density Residential to Open Space on the Farmersville General Plan land use map.
- Approve a Zone Change to:
  - RM-2.5 where the land will be designated Medium High Density Residential.
  - P/QP where the land will be designated Open Space.
- Approve the Project's Conditional Use Permit
- Approve the Project's Tentative Subdivision Map

The Project applicant is proposing to subdivide and develop approximately 36.51 acres of land into a planned community with 151 single-family residential units and one park.



It is anticipated that the Project would begin development in early 2024.

## Surrounding Land Uses/Existing Conditions

The proposed Project site currently consists of agricultural row crops. An unnamed ditch or canal borders the eastern, southern, and western edge of the property.

Lands surrounding the proposed Project are described as follows:

- North: Agricultural row crops.
- South: Agricultural row crops, vacant land, West Visalia Road
- East: Single-family residences and Farmersville Junior High School
- West: Agricultural row crops, vacant land

## Other Public Agencies Involved

- The adoption of a Mitigated Negative Declaration by the City of Farmersville
- Approval of a General Plan Amendment by the City of Farmersville
- Approval of a Zone Change by the City of Farmersville
- Approval of a Site Plan Review by the City of Farmersville
- Approval of a Tentative Subdivision Map by the City of Farmersville
- Approval of Building Permits by the City of Farmersville
- Approval of a Stormwater Pollution Prevention Plan by the Central Valley Regional Water Quality Control Board
- Dust Control Plan Approval letter from the San Joaquin Valley Air Pollution Control District
- Compliance with other federal, state and local requirements.

## Tribal Consultation

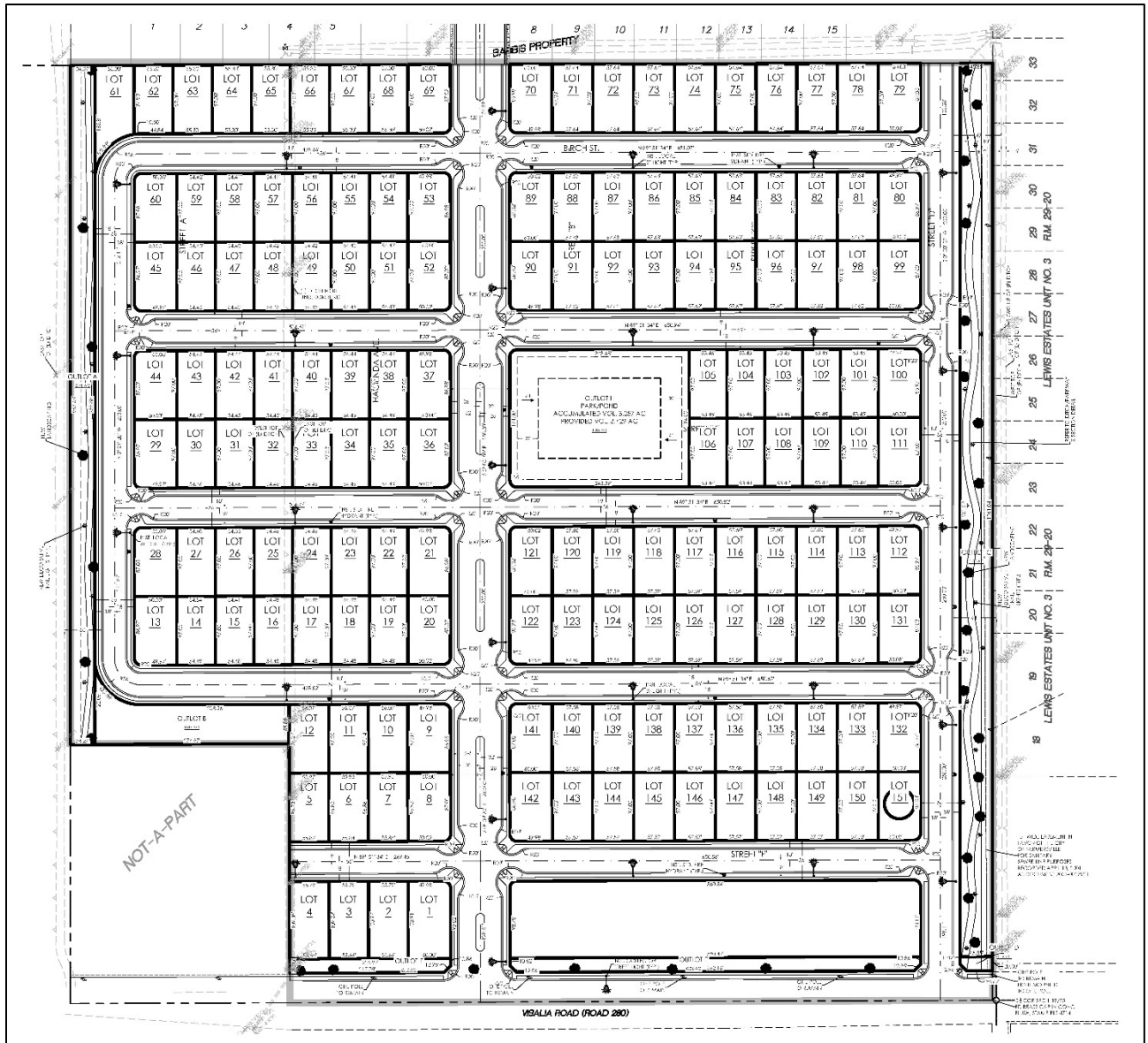
The California Native American Tribes were contacted pursuant to AB 52 (Public Resources Code Section 21080.3.1, et seq.) and SB 18 on behalf of the City of Farmersville on May 30, 2023.

- Big Sandy Rancheria of Western Mono Indians
- Santa Rosa Indian Community of the Santa Rosa Rancheria
- Tule River Indian Tribe
- Wuksache Indian Tribe/Eshom Valley band

- Tubatulabals of Kern Valley
- North Fork Mono Tribe
- Big Sandy Rancheria of Western Mono Indians
- Kern Valley Indian Community

Tribes were provided 90 days, to request consultation pursuant to those statutes. No comments were received.

Figure 3 – Site Plan





## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

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

## DETERMINATION

On the basis of this initial evaluation:

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.



Karl Schoettler

City Planner

City of Farmersville



Date

# ENVIRONMENTAL CHECKLIST

## I. AESTHETICS

### Would the project:

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

## RESPONSES

### a. Have a substantial adverse effect on a scenic vista?

**Less than Significant Impact.** The Project applicant is proposing to subdivide and develop approximately 36.51 acres of land into a planned single-family residential community, with a maximum of 151 lots and one park. The proposed Project also includes developments and improvements typically associated with a new residential development, including access roads, lighting and site landscaping. The structures will conform to design standards set forth by the City’s General Plan and Zoning Ordinance. The proposed Project site is located in a growing part of the City, with similar urban

residential housing to the east, and will not result in a use that is visually incompatible with the surrounding area.

The City of Farmersville General Plan does not identify any scenic vistas within the Project area. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area.

Construction activities will be visible from the adjacent roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista. The impact will be *less than significant*.

**Mitigation Measures:** None are required.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**Less Than Significant Impact.** There are no state designated scenic highways within the immediate proximity to the Project site. California Department of Transportation Scenic Highway Mapping System identifies SR 198 east of SR 99 as an Eligible State Scenic Highway. This is the closest highway, located approximately 1.7 miles north of the Project site; however, the Project site is both physically and visually separated from SR 198 by intervening land uses. In addition, no scenic highways or roadways are listed within the Project area in the City of Farmersville’s General Plan or Tulare County’s General Plan. Based on the National Register of Historic Places (NRHP) and the City’s General Plan, no historic buildings exist on the Project site. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be considered *less than significant*.

**Mitigation Measures:** None are required.

c. In non-urbanized areas, 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 regulations governing scenic quality?

**Less Than Significant Impact.** Site construction will include residences, internal access roads, lighting, site landscaping and additional related improvements. The residences will be single-family and will conform to design standards set forth by the City’s General Plan and Zoning Ordinance. The proposed Project site is located in an area that is substantially surrounded by urban uses, including residential and

agricultural, and as such, will not result in a use that is visually incompatible with the surrounding area. The proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings.

The impact will be *less than significant*.

**Mitigation Measures:** None are required.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

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

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

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

Currently, the sources of light in the Project area are from streetlights, the vehicles traveling along West Visalia Road and nearby residential streets, and nighttime lighting from adjacent residences and

churches. The Project would necessitate street and residential nighttime lighting and such lighting that would be subject to City standards. Accordingly, potential impacts would be considered *less than significant*.

**Mitigation Measures:** None are required.

## II. AGRICULTURE AND FOREST RESOURCES

### Would the project:

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

## RESPONSES

- 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?

**No Impact.** The Project site is located in an area of the City considered *Prime Farmland* by the State Farmland Mapping and Monitoring Program.<sup>1</sup> The entire Project site is within the City limits and is currently designated Residential and Commercial by the General Plan. As such, any potential conversion of Prime Farmland has been analyzed in the City's General Plan EIR (SCH# 2002071029). Therefore, the proposed Project does not have the potential to result in the new conversion of Farmland to non-agricultural uses or forestland uses to non-forestland. There is *no impact*.

**Mitigation Measures:** None are required.

- b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

**No Impact.** The proposed Project site is within the City of Farmersville and currently zoned and designated by the City's General Plan for urban uses such as Residential and Commercial. The site is not under a Williamson Act Contract. There are *no impacts*.

**Mitigation Measures:** None are required.

- 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))?

**No Impact.** The Project is not zoned for forestland and does not propose any zone changes related to forest or timberland. There is *no impact*.

**Mitigation Measures:** None are required.

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<sup>1</sup> California Department of Conservation Division of Land Resource Protection. Farmland Mapping and Monitoring Program. <https://maps.conservation.ca.gov/DLRP/CIFF>. Accessed June 2023.



d. Result in the loss of forest land or conversion of forest land to non-forest use?

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

**Mitigation Measures:** None are required.

e. 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.** No land conversion from Farmland would occur for the Project. Surrounding land uses include residential, commercial, and agriculture. The proposed Project site is designated for urban development by the Farmersville General Plan and as such, does not have the potential to result in the new conversion of Farmland to non-agricultural uses or forestland uses to non-forestland. There is *no impact*.

**Mitigation Measures:** None are required.

### III. AIR QUALITY

**Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors or adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following analysis was provided by an Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum that was performed on behalf of the proposed project by Johnson, Johnson & Miller Air Quality Consulting Services, report date June 20, 2023. The report can be read in its entirety in Appendix A.

#### RESPONSES

a. Conflict with or obstruct implementation of the applicable air quality plan?

**Less Than Significant Impact.** Air Quality Plans (AQPs) are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. The proposed Project site is located within the jurisdictional boundaries of the SJVAPCD. To show attainment of the standards, the SJVAPCD analyzes the growth projections in the Valley, contributing factors in air pollutant emissions and formations, and existing and adopted emissions controls. The SJVAPCD then formulates a control strategy to reach attainment that includes both State and SJVAPCD regulations and other local programs and measures. For projects that include stationary sources of emissions, the SJVAPCD relies on project compliance with Rule 2201—New and Modified Stationary Source Review to ensure that growth in stationary source

emissions would not interfere with the applicable AQP. Projects exceeding the offset thresholds included in the rule are required to purchase offsets in the form of Emission Reduction Credits (ERCs).

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

An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project comply with applicable control measures in the AQPs?

The use of the criteria listed above is a standard approach for CEQA analysis of projects in the SJVAPCD's jurisdiction, as well as within other air districts, for the following reasons:

- Significant contribution to existing or new exceedances of the air quality standards would be inconsistent with the goal of attaining the air quality standards.
- AQP emissions inventories and attainment modeling are based on growth assumptions for the area within the air district's jurisdiction.
- AQPs rely on a set of air district-initiated control measures as well as implementation of federal and state measures to reduce emissions within their jurisdictions, with the goal of attaining the air quality standards.

As discussed in Impact III(b) below, emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> associated with the proposed Project would not exceed the SJVAPCD's significance thresholds during the construction phase (see Table 1). Similarly, emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>2.5</sub> or PM<sub>10</sub> during operations would not exceed any applicable threshold of significance (see Table 2). Therefore, regarding this criterion, the Project would be considered less than significant.

### **Air Quality Plan Control Measures**

The AQP contains a number of control measures that are enforceable requirements through the adoption of rules and regulations. The following rules and regulations are relevant to the Project:

**Rule 2010—Permits Required.** Rule 2010 requires operators of emission sources to obtain an authority to construct and permit to operate from the Valley Air District.

**Rule 2201—New and Modified Stationary Source Review Rule.** The review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards.

**Rule 4201—Particulate Matter Concentration.** This rule shall apply to any source operation that emits or may emit dust, fumes, or total suspended particulate matter.

**Rule 4601—Architectural Coatings.** The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

**Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations.** The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider.

**Rule 4702—Internal Combustion Engines.** The purpose of this rule is to limit the emissions of NO<sub>x</sub>, carbon monoxide (CO), VOC, and sulfur oxides (SO<sub>x</sub>) from internal combustion engines. If the project includes emergency generators, the equipment is required to comply with Rule 4702.

**Rule 4901 – Wood Burning Fireplaces and Heaters.** The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This rule established limitations on the installation of new wood burning fireplaces and wood burning heaters. Specifically, at elevations below 3,000 feet in areas with natural gas service, no person shall install a wood burning fireplace, low mass fireplace, masonry heater, or wood burning heater.

**Regulation VIII—Fugitive PM<sub>10</sub> Prohibitions.** This regulation is a control measure that is one main strategies from the 2006 PM<sub>10</sub> for reducing the PM<sub>10</sub> emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. Rule 8021 regulates construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All

development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

**Rule 9510–Indirect Source Review.** This rule reduces the impact of NO<sub>x</sub> and PM<sub>10</sub> emissions from growth within the SJVAB. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two.

The Project would comply with all applicable CARB and SJVAPCD rules and regulations. Therefore, the Project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan with regards to this criterion.

The Project's regional operational emissions would not exceed any applicable SJVAPCD prior to the incorporation of mitigation measures (see Impact III(b)). Therefore, the Project would be considered consistent with the existing AQPs.

Based on the findings above, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be *less than significant*.

**Mitigation Measures:** None are required.

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?

**Less Than Significant Impact.** To result in a less than significant impact, emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD's in its GAMAQI. The SJVAB is in nonattainment for ozone, PM<sub>10</sub> (State only), and PM<sub>2.5</sub>. Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. As such, the primary pollutants of concern during project construction and operation are ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Since the SJVAB is nonattainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NO<sub>x</sub>, ROG/VOC, PM<sub>10</sub>, or PM<sub>2.5</sub> are applied as cumulative contribution thresholds. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO<sub>x</sub>, ROG, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Air pollutant emissions have both regional and localized effects.

The Project’s regional emissions are compared to the applicable SJVAPCD regional thresholds below to address if the project would result in a cumulatively considerable net increase of any criteria pollutant (including ozone precursors) of concern.

**Criteria Pollutant Emission Estimates**

Construction Emissions (Regional)

Construction emissions associated with the development envisioned for the proposed Project are shown in Table 1 prior to the incorporation of any mitigation.

**Table 1  
Summary of Construction-Generated Emissions of Criteria Air Pollutants – Unmitigated<sup>2</sup>**

Emissions Source	Emissions (Tons/Year)					
	ROG	NOx	CO	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work (2023)	0.13	1.30	1.14	0.00	0.29	0.14
Site Work (2024)	0.14	0.90	0.90	0.00	0.18	0.07
Home Construction (2023)	0.02	0.21	0.25	0.00	0.04	0.01
Home Construction (2024)	0.24	1.96	2.51	0.00	0.36	0.11
Home Construction (2025)	0.20	1.62	2.18	0.00	0.30	0.09
Home Construction (2026)	1.02	0.78	1.11	0.00	0.18	0.05
<b>Total Construction Duration</b>						
<b>Project Total</b>	<b>1.75</b>	<b>6.77</b>	<b>8.09</b>	<b>0.00</b>	<b>1.35</b>	<b>0.47</b>
<b>Significance Thresholds</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>27</b>	<b>15</b>	<b>15</b>
<b>Exceed Significance Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Notes:</i> PM <sub>10</sub> and PM <sub>2.5</sub> emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM <sub>10</sub> Prohibitions. Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A of Appendix A). Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a> . Accessed June 16, 2023.						

As shown in Table 1 above, construction activities associated with the proposed Project are estimated below the significance thresholds. Therefore, regional and cumulative impacts associated with construction of the proposed Project are less than significant.

Operational Emissions (Regional)

<sup>2</sup> Cameron Creek Residential Project—Farmersville, Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum. Johnson Johnson and Miller Air Quality Consulting Services. prepared on June 20, 2023. Appendix A.

Operational emissions occur over the lifetime of the project. The SJVAPCD considers permitted and non-permitted emission sources separately when making significance determinations. In addition, the annual operational emissions are also considered separately from construction emissions. Operational emissions associated with the proposed Project are shown in Table 2. Operational emissions were estimated using a full buildout scenario in the earliest year of operations (2024), which provides a conservative estimate of emissions and resulting potential impacts.

**Table 2**  
**Summary of Operational Emissions of Criteria Air Pollutants – Unmitigated<sup>3</sup>**

Source	Emissions (Tons/Year)					
	ROG	NOx	CO	SOx	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	1.32	0.06	0.79	< 0.01	< 0.01	< 0.01
Energy	0.01	0.25	0.11	< 0.01	0.02	0.02
Mobile (Automobiles)	1.05	1.23	10.02	0.02	1.91	0.49
<b>Annual Total (2024)</b>	<b>2.38</b>	<b>1.54</b>	<b>10.92</b>	<b>0.02</b>	<b>1.93</b>	<b>0.51</b>
<b>Significance Thresholds</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>27</b>	<b>15</b>	<b>15</b>
<b>Exceed Significance Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Notes:</i> Emissions were quantified using CalEEMod based on project details and earliest operational year for the proposed project. Source: Modeling Assumptions and CalEEMod Output Files (Attachment A of Appendix A).						

As shown in Table 2, operational emissions would not exceed the applicable SJVAPCD thresholds of significance for ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. Therefore, the impact from operations of the Project would be less than significant.

**Conclusion**

As shown in Table 1, the Project’s regional emissions would not exceed the applicable regional criteria pollutant emissions quantitative thresholds during project construction. During operations, the Project would not exceed the applicable regional criteria pollutant emissions quantitative thresholds (see Table 2). Therefore, the impact would be *less than significant*.

**Mitigation Measures:** None are required.

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<sup>3</sup> Ibid.

c. Expose sensitive receptors to substantial pollutant concentrations?

**Less than Significant Impact with Mitigation.** Emissions occurring at or near the project have the potential to create a localized impact that could expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools.

The closest existing sensitive receptors to the Project site include residential receptors, the closest of which include existing single-family homes located within approximately 50 feet east of the project boundary. See Attachment B (Construction Health Risk Assessment and Operational Health Risk Screening) of Appendix A for a graphical representation of the sensitive receptor locations within approximately ¼-mile of the Project site.

### **Localized Impacts**

Emissions occurring at or near the project have the potential to create a localized impact also referred to as an air pollutant hotspot. Localized emissions are considered significant if when combined with background emissions, they would result in exceedance of any health-based air quality standard. In locations that already exceed standards for these pollutants, significance is based on a significant impact level (SIL) that represents the amount that is considered a cumulatively considerable contribution to an existing violation of an air quality standard. The pollutants of concern for localized impact in the SJVAB are NO<sub>2</sub>, SO<sub>x</sub>, and CO.

The SJVAPCD has provided guidance for screening localized impacts in the GAMAQI that establishes a screening threshold of 100 pounds per day of any criteria pollutant. If a project exceeds 100 pounds per day of any criteria pollutant, then ambient air quality modeling would be necessary. If the project does not exceed 100 pounds per day of any criteria pollutant, then it can be assumed that it would not cause a violation of an ambient air quality standard.

### Construction: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>x</sub>, and NO<sub>x</sub>

Local construction impacts would be short-term in nature lasting only during the duration of construction. As shown in Table 3 below, on-site construction emissions would be less than 100 pounds per day for each of the criteria pollutants. To present a conservative estimate, on-site emissions for on-



road construction vehicles were included in the localized analysis. Based on the SJVAPCD's guidance, the construction emissions would not cause an ambient air quality standard violation.

Operation: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>x</sub>, and NO<sub>x</sub>

Localized impacts could occur in areas with a single large source of emissions such as a power plant or with multiple sources concentrated in a small area such as a distribution center. The maximum daily operational emissions would occur at project buildout, which was assumed to occur in 2024 (the earliest year of operations). Operational emissions include those generated on-site by area sources such as consumer products and landscape maintenance, energy use from natural gas combustion, and motor vehicles operation at the project site. Motor vehicle emissions are estimated for on-site operations using trip lengths for on-site travel and ¼-mile of off-site emissions.

As shown in Table 4 below, operational modeling of on-site emissions for the Project indicate that the Project would not exceed 100 pounds per day for each of the criteria pollutants. Therefore, based on the SJVAPCD's guidance, the operational emissions would not cause an ambient air quality standard violation. As such, impacts would be less than significant.

**Table 3**

**Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and NO<sub>x</sub> for Construction – Unmitigated<sup>4</sup>**

Emissions Source	On-site Emissions (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>2023</b>						
Highest Daily Construction Site Work (2023)	4.03	39.83	35.84	0.06	10.85	5.74
Highest Daily Construction Home Construction (2023)	1.65	13.35	15.68	0.03	2.01	0.70
<i>Highest Combined Construction</i>	5.68	53.18	51.52	0.09	12.86	6.44
<b>2024</b>						
Highest Daily Construction Site Work (2024)	3.61	34.53	30.66	0.06	6.42	2.90
Highest Daily Construction Home Construction (2024)	2.55	20.59	25.60	0.04	3.72	1.15
<i>Highest Combined Construction</i>	6.16	55.12	56.26	0.10	10.14	4.05
<b>2025</b>						
Highest Daily Construction Home Construction (2025)	1.52	11.83	15.38	0.03	1.88	0.58
<b>2026</b>						
Highest Daily Construction Home Construction (2026)	35.12	12.07	16.34	0.03	3.22	0.69
<b>Total Construction Duration</b>						
<b>Highest Daily Maximum</b>	<b>35.12</b>	<b>55.12</b>	<b>56.26</b>	<b>0.10</b>	<b>12.86</b>	<b>6.44</b>
<b>Significance Thresholds</b>	<b>—</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Exceed Significance Thresholds?</b>	<b>—</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<p><i>Notes:</i></p> <p>Overlap of construction activities is based on the construction schedule shown in Table 2 and Attachment A.</p> <p>Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A). Maximum daily emissions represent the maximum daily emissions between the Summer and Winter scenarios.</p> <p>Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a>. Accessed June 16, 2023.</p>						

<sup>4</sup> Ibid.

**Table 4**  
**Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and NO<sub>x</sub> for Operations<sup>5</sup>**

Source	Emissions (Tons/Year)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	7.66	1.25	9.07	0.01	0.10	0.11
Energy	0.08	1.39	0.59	0.01	0.11	0.11
Mobile (Automobiles)	5.76	2.08	14.66	0.01	0.53	0.14
<b>Total</b>	<b>13.50</b>	<b>4.72</b>	<b>24.32</b>	<b>0.03</b>	<b>0.74</b>	<b>0.36</b>
<b>Significance Thresholds</b>	<b>—</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Exceed Significance Thresholds?</b>	<b>—</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

*Notes:*

Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A of Appendix A).

Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed June 16, 2023.

**Toxic Air Contaminants, Health Risk Analysis**

Construction

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD’s current threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD’s 2015 GAMAQI does not currently recommend analysis of TAC emissions from project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. In addition, the most intense construction activities of the Project’s construction would occur during site preparation and grading phases over a short period. There are no conditions unique to the Project site that would require more intense construction activity compared to typical development. Examples of situations that would warrant closer scrutiny may include sites that would require extensive excavation and hauling due to existing site conditions. Building construction typically requires limited amounts of diesel equipment relative to site clearing activities. Nonetheless, a construction HRA was prepared as part of this analysis. In addition, the analysis includes an evaluation of potential health impacts from construction and operations of the project considered together, over a 70-year exposure scenario.

<sup>5</sup> Ibid.

The results of the HRA prepared for Project construction for cancer risk and long-term chronic cancer risk are summarized below. Construction emissions were estimated assuming adherence to all applicable rules, regulations, and project design features. The construction emissions were assumed to be distributed over the Project area with a working schedule of eight hours per day and five days per week. Emissions were adjusted by a factor of 4.2 to convert for use with a 24-hour-per-day, 365 day-per-year averaging period. Health risk calculations were completed using HARP2. Detailed parameters and complete calculations are included in Attachment B of Appendix A.

The estimated health and hazard impacts at the Maximally Exposed Receptor (MER) from the Project’s construction emissions are provided in Table 5.

**Table 5**  
**Summary of the Health Impacts from Unmitigated Construction of the Project<sup>6</sup>**

Exposure Scenario	Maximum Cancer Risk (Risk per Million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index
<b>Risks and Hazards at the MER</b>			
Risks and Hazards at the MER	20.82	0.0112	0.0000
<b>Significance Threshold</b>	<b>20</b>	<b>1</b>	<b>1</b>
<b>Threshold Exceeded in Any Scenario?</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<i>MER = Maximally Exposed Receptor</i> <i>Cameron Creek Residential Project Unmitigated Construction MER: Receptor #509 (36°17'56.8"N 119°12'56.8"W)</i> <i>Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B of Appendix A).</i>			

As shown in Table 5, estimated health risks from elevated DPM concentrations during construction of the proposed Project would exceed the applicable cancer risk significance threshold in at least one scenario. This represents a potentially significant construction TAC exposure impact. Therefore, mitigation is required to reduce the impact during the construction period to below a level of significance.

Mitigation measure AIR-1 requires the Project applicant, Project sponsor, or construction contractor to provide documentation to the City of Farmersville that all off-road diesel-powered construction equipment greater than 50 horsepower meet EPA or CARB Tier 3 Final off-road emissions standards or to use Level 3 filters.

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<sup>6</sup> Ibid

Table 6 shows the health risks and non-cancer hazard index for construction with implementation of mitigation measure AIR-1.

**Table 6**  
**Summary of the Health Impacts from Mitigated Construction of the Project<sup>7</sup>**

<b>Exposure Scenario</b>	<b>Maximum Cancer Risk (Risk per Million)</b>	<b>Chronic Non-Cancer Hazard Index</b>	<b>Acute Non-Cancer Hazard Index</b>
<b>Risks and Hazards at the MER—Tier 3 Equipment Scenario</b>			
Risks and Hazards at the MER	18.69	0.0101	0.0000
<b>Risks and Hazards at the MER—Level 3 Filters Scenario</b>			
Risks and Hazards at the MER	5.46	0.0029	0.0000
<b>Highest Risks and Hazards at the MER after Incorporation of MM AIR-1</b>			
Risks and Hazards at the MER	18.69	0.0101	0.0000
<b>Significance Threshold</b>	<b>20</b>	<b>1</b>	<b>1</b>
<b>Threshold Exceeded in Any Scenario?</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>MER = Maximally Exposed Receptor</i> <i>Cameron Creek Residential Project Mitigated Construction MER: Receptor #509 (36°17'56.8"N 119°12'56.8"W)</i> <i>Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B of Appendix A).</i>			

As noted in Table 6, calculated health metrics from the proposed Project’s construction DPM emissions would not exceed the cancer risk significance threshold or non-cancer hazard index significance threshold at the MEI with incorporation of mitigation measure AIR-1. Therefore, the proposed Project would not result in a significant impact on nearby sensitive receptors from TACs during construction.

Operations

Unlike warehouses or distribution centers, the daily vehicle trips generated by the proposed residential Project would be primarily generated by passenger vehicles. Passenger vehicles typically use gasoline engines rather than the diesel engines that are found in heavy-duty trucks. Gasoline-powered vehicles do emit TACs in the form of toxic organic gases, some of which are carcinogenic. Compared to the combustion of diesel, the combustion of gasoline had relatively low emissions of TACs. Thus, residential projects typically produce limited amounts of TAC emissions during operation. Nonetheless, it is anticipated that there would be some heavy-duty trucks visiting the project site during operations.

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<sup>7</sup> Ibid.

Consistent with SJVAPCD guidance, an operational prioritization screening analysis was completed for the proposed Project.

Operational DPM emissions from diesel trucks were estimated using EMFAC 2021 emission factors and estimated truck travel and idling at the Project site. The emissions were entered into the SJVAPCD Prioritization Screening Tool to determine the risk scores, with complete calculations and assumptions included as part of Attachment B of Appendix A. The results of the screening analysis are provided in Table 7.

**Table 7**  
**Prioritization Tool Health Risk Screening Results<sup>8</sup>**

<b>Impact Source</b>	<b>Cancer Risk Score</b>	<b>Chronic Risk Score</b>	<b>Acute Risk Score</b>
Diesel Trucks	2.627	0.008	0.000
<b>Total Risk from Project Operations</b>	<b>2.627</b>	<b>0.008</b>	<b>0.000</b>
Screening Risk Score Threshold	<b>10</b>	<b>1</b>	<b>1</b>
<b>Screening Thresholds Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B of Appendix A)</i>			

As shown in Table 7, the Project would not exceed the cancer risk or chronic hazard threshold levels. The primary source of the emissions responsible for chronic risk are from diesel trucks. DPM does not have an acute risk factor. Since the Project does not exceed the applicable SJVAPCD screening thresholds for cancer risk, acute risk, or chronic risk, this impact would be less than significant.

*Valley Fever*

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. The San Joaquin Valley is considered an endemic area for Valley fever. During 2000–2018, a total of 65,438 coccidioidomycosis cases were reported in California; median statewide annual incidence was 7.9 per 100,000 population and varied by region from 1.1 in Northern and Eastern California to 90.6 in the Southern San Joaquin Valley,

<sup>8</sup> Ibid.

with the largest increase (15-fold) occurring in the Northern San Joaquin Valley. Incidence has been consistently high in six counties in the Southern San Joaquin Valley (Fresno, Kern, Kings, Madera, Tulare, and Merced counties) and Central Coast (San Luis Obispo County) regions.<sup>9</sup> California experienced 7,517 new probable or confirmed cases of Valley fever in 2022. A total of 319 suspect, probable, and confirmed Valley fever cases were reported in Tulare County in 2022.<sup>10</sup>

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1. Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
2. Old (prehistoric) Indian campsites near fire pits
3. Areas with sparse vegetation and alkaline soils
4. Areas with high salinity soil
5. Areas adjacent to arroyos (where residual moisture may be available)
6. Packrat middens
7. Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
8. Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1. Cultivated fields
2. Heavily vegetated areas (e.g., grassy lawns)
3. Higher elevations (above 7,000 feet)
4. Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied
5. Areas that are continually wet
6. Paved (asphalt or concrete) or oiled areas
7. Soils containing abundant microorganisms

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<sup>9</sup> Centers for Disease Control and Prevention (CDC). 2020. Regional Analysis of Coccidioidomycosis Incidence—California, 2000–2018. Website: [https://www.cdc.gov/mmwr/volumes/69/wr/mm6948a4.htm?s\\_cid=mm6948a4\\_e](https://www.cdc.gov/mmwr/volumes/69/wr/mm6948a4.htm?s_cid=mm6948a4_e). Accessed June 16, 2023.

<sup>10</sup> California Department of Public Health (CDPH). 2021. Coccidioidomycosis in California Provisional Monthly Report January – April 2023 (as of April 30, 2023). Website: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf>. Accessed June 16, 2023.

8. Heavily urbanized areas where there is little undisturbed virgin soil.<sup>11</sup>

The Project is situated on a site previously disturbed that does not provide a suitable habitat for spores. Specifically, the Project site had been previously cultivated and has vegetation cover in the form of agricultural uses. Therefore, implementation of the proposed Project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Although conditions are not favorable, construction activities could generate fugitive dust that contains *C. immitis* spores. The Project will minimize the generation of fugitive dust during construction activities by complying with SJVAPCD's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be relatively small because most of the Project area where operational activities would occur would be occupied by the proposed residential subdivision and related homes, pavement, and internal streets. This condition would lessen the possibility of the Project site providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

#### *Naturally Occurring Asbestos*

Review of the map of areas where naturally occurring asbestos in California are likely to occur found no such areas in the immediate Project area. Therefore, development of the Project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

#### *Operations—The Project's Potential to Locate Sensitive Receptor Near Existing Sources of TACs*

As a residential project, the Project would locate sensitive receptors (future residents) to a site where future Project residents could be subject to existing sources of TACs at the project site. However, the California Supreme Court concluded in California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD) that agencies subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. Therefore, this impact will not be further addressed in this document.

### **Impact Analysis Summary**

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<sup>11</sup> United States Geological Survey (USGS). 2000. Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), 2000, Open-File Report 2000-348. Website: <https://pubs.usgs.gov/of/2000/0348/pdf/of00-348.pdf>. Accessed June 16, 2023.



In summary, the Project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The Project is not a significant source of TAC emissions during construction or operation with the incorporation of Mitigation Measure AIR-1. The Project is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Therefore, the Project would not result in significant impacts to sensitive receptors, with mitigation incorporation.

### **Mitigation Measures:**

#### **AIR-1:**

Before a construction permit is issued for the proposed Project, the Project applicant, project sponsor, or construction contractor shall submit documentation demonstrating reasonably detailed compliance with one of the following requirements to the City of Farmersville:

- **Option 1:** Where portable diesel engines are used during construction, all off-road equipment with engines greater than 50 horsepower shall have engines that meet or exceed either United States Environmental Protection Agency (EPA) or California Air Resources Board (CARB) Tier 3 off-road emission standards except as otherwise specified herein. If engines that comply with Tier 3, Tier 4 Interim, or Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 2) that is commercially available. For purposes of this project design feature, “commercially available” shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the Project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.
- **Option 2:** Prior to the issuance of any demolition, grading, or building permits (whichever occurs earliest), the Project applicant and/or construction contractor shall prepare a construction operations plan that, during construction activities, requires all off-road equipment with engines greater than 50 horsepower to meet either the particulate matter emissions standards for Tier 3 engines or be equipped with Level 3 diesel particulate filters. Tier 3 engines shall, at a minimum, meet EPA or CARB particulate matter emissions standards for Tier 3 engines. Alternatively, use of CARB-certified Level 3 diesel particulate filters on off-road equipment with engines greater than 50 horsepower can be used in lieu of Tier 3 engines or in combination with Tier 3 or better engines. The construction contractor shall maintain records documenting its efforts to comply with this requirement, including equipment lists.

Off-road equipment descriptions and information shall include, but are not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number. The Project applicant and/or construction contractor shall submit the construction operations plan and records of compliance to the City of Farmersville.

d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?)

**Less than Significant Impact.** Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor.

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Although the Project is less than one mile from the nearest sensitive receptor, the Project is not expected to be a significant source of odors. The screening levels for these land use types are shown in Table 8.

**Table 8**  
**Screening Levels for Potential Odor Sources<sup>12</sup>**

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile

<sup>12</sup> Cameron Creek Residential Project—Farmersville, Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum. Johnson Johnson and Miller Air Quality Consulting Services. prepared on June 20, 2023. Appendix A.

Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Wastewater Treatment Facilities	2 miles
<p>Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. <i>Guidance for Assessing and Mitigating Air Quality Impacts</i>. February 19.</p> <p>Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a>. Accessed June 16, 2023.</p>	

**Construction**

During construction, various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and intermittent, which would decrease the likelihood of the odors concentrating in a single area or lingering for any notable period of time. As such, these odors would likely not be noticeable for extended periods of time beyond the project’s site boundaries. The potential for odor impacts from construction of the proposed Project would, therefore, be less than significant.

**Operations**

*Project as a Potential Odor Generator*

The development of the proposed Project would not substantially increase objectionable odors in the area and would not introduce any new sensitive receptors to the area that could be affected by any existing objectionable odor sources in the area. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, asphalt batch plants, rendering plants, and other land uses outlined in Table 8. The proposed residential Project would not engage in any of these activities. Minor sources of odors that would be associated with typical single-family residential projects, such as exhaust from mobile sources (including diesel-fueled vehicles), are known to have temporary and less concentrated odors. Considering the low intensity of potential odor emissions, the proposed Project’s operational activities would not expose receptors to objectionable odor emissions. Therefore, the proposed Project would not be considered to be a generator of objectionable odors during operations. As such, impacts would be less than significant.

*Project as a Receptor*

With the *CBIA v. BAAQMD* ruling, analysis of odor impacts on receivers is not required for CEQA compliance unless the project would exacerbate the impact. As discussed above, the project is residential in nature and would not be considered a major source of odors during construction or operation.

Therefore, the following analysis is provided for informational purposes only, while the significance determination for the odor is. As a residential development, the project has the potential to place sensitive receptors near existing and new odor sources.

The Project area was reviewed for major odor-generating sources (as listed in Table 8) within screening distance of the Project site. Results of this review found that the Project site could be within the screening distances of the following potential sources of odor: Farmersville Wastewater Treatment Plant, recycling facility/possible composting facility, painting/coating operations (e.g., auto body shop) and Blue Grass Dairy. Public record requests were filed with the SJVAPCD to obtain the most recent 3-year odor complaint history for the potential odor generators within the vicinity of the project site. Based on the responses from the SJVAPCD, there are no land uses within the screening distances shown in Table 8 that have received one (1) or more confirmed complaints per year for the most recent 3-year period or three (3) of more unconfirmed complaints for the most recent 3-year period.

The evaluation of potential sources of odors within the Project vicinity are provided below in Table 9.

**Table 9**  
**Evaluation of Potential Odor Sources Near the Project Site<sup>13</sup>**

<b>Odor Generator</b>	<b>Screening Distance</b>	<b>Facilities Near the Project Site</b>	<b>Proximity of the Nearest Source to the Project Site</b>	<b>More than One (1) Confirmed Complaints per Year?</b>	<b>More than Three (3) Unconfirmed Complaints per Year?</b>
Wastewater Treatment Facilities	2 miles	Farmersville Wastewater Treatment Plant	Approximately 0.86 mile south of the project site	No	No
Sanitary Landfill	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Transfer Station	1 mile	WM - Tulare County	2.66 miles southwest of the project site	Not Applicable	Not Applicable
Composting Facility	1 mile	Regals Recycling (Recycling Facility that may also serve as a transfer station and/or a composting facility— accepts green waste)	0.66 miles southeast of the project site	No	No

<sup>13</sup> Ibid.

Odor Generator	Screening Distance	Facilities Near the Project Site	Proximity of the Nearest Source to the Project Site	More than One (1) Confirmed Complaints per Year?	More than Three (3) Unconfirmed Complaints per Year?
Petroleum Refinery	2 miles	None	> 2 mile	Not Applicable	Not Applicable
Asphalt Batch Plant	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Chemical Manufacturing	1 mile	Processtec (Manufacturer) 345 E Tulare Ave suite e Visalia, CA 93277	3.95 miles northwest of the project site	Not Applicable	Not Applicable
Fiberglass Manufacturing	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Painting/Coating Operations (e.g., auto body shop)	1 mile	Pioneer Paint & Body	0.76 mile east of the project site	No	No
		Tapia's Auto Body & Paint Shop	0.81 mile east of the project site	No	No
		C&J Auto Body & Paint	0.86 mile east of the project site	No	No
Food Processing Facility	1 mile	Milk Specialties Global	5.59 miles northwest of the project site	Not Applicable	Not Applicable
		Advanced Food Products LLC (assumed could be a possible food processor)	3.66 miles northwest of the project site		
Feed Lot/Dairy	1 mile	Blue Grass Dairy (36°17'12.50"N, 119°13'27.38"W)	0.82 mile southwest of the project site	No	No
Rendering Plant	1 mile	None	> 1 mile	Not Applicable	Not Applicable

Source of Types of Major Odor Generator Land Uses: See Table 8.

As shown in Table 9, there are no major odor-generating sources that have received complaints to an extent that would exceed SJVAPCD-recommended thresholds for assessing odor impacts from odor generators. Furthermore, there are existing residential uses located within the screening distances for all the potential sources in the Project vicinity.

As shown in the dispersion modeling general parameters included in the health risk assessment (HRA) prepared for the project in Attachment B of Appendix A, the predominant wind direction in project area is northwesterly. The northwesterly winds blow from the northwest towards the southeast direction.

Because the Farmersville Wastewater Treatment Plant is located south of the Project site, future residents would not be placed downwind of the potential odor source. Regals Recycling is considered a possible odor generator because it may accept green waste and could be considered a compost facility. This possible odor generator is located at 873 South Farmersville Boulevard, Farmersville, CA 93223. The Project site is not located downwind of this recycling facility. Considering this information, the uses in the vicinity of the Project would not result in substantial odor impacts to the Project. Impacts would be *less than significant*.

**Mitigation Measures:** None are required.

#### IV. BIOLOGICAL RESOURCES

**Would the project:**

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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

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

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

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

The Project site consists of almond orchards, agricultural row crops and non-native vegetation. An unnamed canal borders the western and eastern edge of the site.

RESPONSES

- 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?



**Less than Significant Impact.** According to the City of Farmersville General Plan, a total of 8 special status animal species could potentially occur in the Farmersville area. Two of the 8 species are listed as threatened or endangered by the U.S. Fish and Wildlife Service or the California Department of Fish and Game. The remaining 6 species were candidates for federal listing or listed species of special concern by the State of California as of the adoption of the General Plan. No special status plant species are likely to occur in the Farmersville planning area.

The proposed Project site is located in an area that is heavily disturbed. Agricultural lands lie to the north, west, and south of the site while single-family residential development is to the east. The site itself is occupied by almond orchards and agricultural row crops. The lack of natural vegetation on site and the active disturbance in the immediate surrounding areas indicates that the Project site is unlikely to support native wildlife.

The Project site consists of an orchard and is not expected to provide habitat for special status species due to the high disturbance. Thus, the impact remains *less than significant*.

**Mitigation Measures:** None are required.

- 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

**Less Than Significant Impact.** There is no riparian habitat or other sensitive natural community on site or adjacent to the Project. According to the Department of Fish & Wildlife, a manmade canal borders the Project site to the north and the east, and an extension ditch borders the site to the east.<sup>14</sup> The proposed development will maintain an appropriate buffer with these canals. According to the National Wetlands Inventory<sup>15</sup>, no wetlands occur in or near the Project site. The proposed Project will not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool,

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<sup>14</sup> California Streams, California Department of Fish & Wildlife. <https://data-cdfw.opendata.arcgis.com/datasets/CDFW::california-streams/explore?location=36.299039%2C-119.217079%2C16.74>. Accessed July 2023.

<sup>15</sup> National Wetlands Inventory. U.S Fish & Wildlife Service. <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>. Accessed July 2023.

coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands occur.

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

**Mitigation Measures:** None are required.

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?

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

**Mitigation Measure: Protect Nesting Bird**

**BIO-1: Protect nesting birds.**

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

other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

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

**Mitigation Measures:** None are required.

- f. 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.** There are no adopted habitat conservation plans that apply to the proposed Project site. There is *no impact*.

**Mitigation Measures:** None are required.

## V. CULTURAL RESOURCES

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### RESPONSES

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

**Less than Significant Impact with Mitigation.** A Phase I Cultural Survey was performed on behalf of the Project by Hudlow Cultural Resource Associates in May of 2023 (provided as Appendix B). The Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

One cultural resource was identified, which is an unrecorded portion of CA-TUL-003103H, the Tulare Irrigation District Canal. The Canal, prior to 1969, crossed the southeast corner of the parcel reaching and crossing Visalia Road near its current location. Between 1969 and 1984, the southeast section was abandoned and the canal was relocated to its current location, with a straight north/south direction, originating from the parcel’s northern boundary, where another section of the Tulare Irrigation District Canal is located. Due to the modern right-of-way realignment, this section of the Tulare Irrigation District Canal is not eligible for nomination to the California Register of Historic Resources under Criteria 1-4. This section of the Tulare Irrigation District Canal is not associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1). This section of the Tulare Irrigation District Canal is not associated with the lives of persons important to local, California or national history (Criterion 2). This section of the Tulare Irrigation District Canal does not embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic

values (Criterion 3). Lastly, this section of the Tulare Irrigation District Canal will not yield, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).

While no archaeological or built environment resources were identified within the area, subsurface construction activities associated with the proposed Project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact; however, implementation of Mitigation Measure CUL-1 will ensure that significant impacts remain *less than significant with mitigation incorporation*.

**Mitigation Measures:**

**CUL-1:** The following measures shall be implemented:

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

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

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

c. Disturb any human remains, including those interred outside of formal cemeteries?

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

**Mitigation Measures:**

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

## VI. ENERGY

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following information was provided by an Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum that was performed on behalf of the proposed project by Johnson, Johnson & Miller Air Quality Consulting Services, report date June 20, 2023. The report can be read in its entirety in Appendix A.

The energy requirements for the proposed project were determined using the construction and operational estimates generated from the Air Quality Analysis (refer to Attachment A of Appendix A for related CalEEMod output files). The calculation worksheets for diesel fuel consumption rates for off-road construction equipment and on-road vehicles are provided in Attachment C (Energy Consumption Calculations) of Appendix A.

### RESPONSES

a. 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.** This impact addresses energy consumption from the short-term construction and long-term operations, discussed separately below.

#### Short Term Energy Demand - Construction

##### *Off-Road Equipment*

Table 10 provides estimates of the Project’s construction fuel consumption from off-road construction equipment for the entire Project, categorized by construction activity.

**Table 10**  
**Construction Off-Road Fuel Consumption<sup>16</sup>**

<b>Project Component</b>	<b>Construction Activity</b>	<b>Fuel Consumption (gallons)</b>
Cameron Creek Residential Project (On-site, Off-road Equipment Use)	<b>Site Work for the Project Site and Paving of Internal Streets</b>	
	Site Preparation	2,736
	Grading	9,677
	Paving	1,395
	<b>Home Construction</b>	
	Building Construction	29,580
	Paving	1,395
	Architectural Coating	161
	<b>Construction Total</b>	
<i>Source: Energy Consumption Calculations (Attachment C of Appendix A).</i>		

As shown in Table 10, use of off-road equipment associated with construction of the proposed Project is estimated to consume approximately 44,944 gallons of diesel fuel over the entire construction duration. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the City of Farmersville, the larger Tulare County region, or other parts of California. Therefore, it is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

*On-Road Vehicles*

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 11 provides an estimate of the total on-road vehicle fuel usage during construction. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

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<sup>16</sup> Cameron Creek Residential Project—Farmersville, Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum. Johnson Johnson and Miller Air Quality Consulting Services. prepared on June 20, 2023. Appendix A.



**Table 11  
Construction On-Road Fuel Consumption<sup>17</sup>**

	<b>Project Component</b>	<b>Total Annual Fuel Consumption (gallons)</b>
Cameron Creek Residential Project (On-site, Off-road Equipment Use)	<b>Site Work for the Project Site and Paving of Internal Streets</b>	
	Site Preparation	203
	Grading	2,690
	Paving	331
	<b>Home Construction</b>	
	Building Construction	24,060
	Paving	705
	Architectural Coating	263
<b>Total Construction On-Road Fuel Consumption</b>		<b>28,252</b>
<i>Source: Energy Consumption Calculations (Attachment C of Appendix A).</i>		

*Other Energy Consumption Anticipated During Project Construction*

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. The Project site is located in the City of Farmersville. As construction activities would occur primarily during daylight hours; it is anticipated that the use of construction lighting would be minimal. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 38,145 kWh during the approximate 2.75-year construction phase (Attachment C of Appendix A).

As summarized in Table 10 and Table 11, the proposed Project would require 44,944 gallons of diesel fuel for construction off-road equipment and 28,252 gallons of gasoline and diesel for on-road vehicles during construction. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or other parts of the state. In addition, the overall construction schedule and process is already designed to be efficient in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, it is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region, and as such, impacts would be less than significant.

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<sup>17</sup> Ibid.

**Long Term Energy Demand – Operational**

*Building Energy Demand*

As shown in Table 12 and Table 13, the proposed Project is estimated to demand 1,341,856 kilowatt-hours (KWhr) of electricity and 5,513,161 1,000-British Thermal Units (kBTU) of natural gas, respectively, on an annual basis.

**Table 12  
Long-Term Electricity Usage<sup>18</sup>**

<b>Land Use</b>	<b>Total Electricity Demand (KWhr/year)</b>
<b>Single-family Housing</b>	<b>1,341,856</b>
<i>Source: Energy Consumption Calculations (Attachment C of Appendix A).</i>	

**Table 13  
Long-Term Natural Gas Usage<sup>19</sup>**

<b>Land Use</b>	<b>Total Natural Gas Demand (kBTU/year)</b>
<b>Single-family Housing</b>	<b>5,513,161</b>
<i>Source: Energy Consumption Calculations (Attachment C of Appendix A).</i>	

Buildings and infrastructure constructed pursuant to the proposed project would comply with the versions of CCR Titles 20 and 24, including California Green Building Standards (CALGreen), that are applicable at the time that building permits are issued. The proposed Project is estimated to demand 1,341,856 KWhr of electricity per year and 5,513,161 kBTU of natural gas per year. As the Project site is currently undeveloped and used for agriculture purposes, this would represent an increase in demand for electricity and natural gas.

It would be expected that building energy consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar buildings in the City of Farmersville or the larger Tulare County region. Current state regulatory requirements for new building construction contained in the 2022 CALGreen and Title 24 standards would increase energy efficiency and reduce energy demand in comparison to most existing development, and therefore would reduce

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<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

actual environmental effects associated with energy use from the proposed Project. Additionally, the CALGreen and Title 24 standards have increased efficiency standards through each update. The most recent 2022 standards became effective January 1, 2023 and will be updated in the next cycle that will become effective at the start of 2026. Therefore, while the proposed Project would result in increased electricity and natural gas demand, electricity and natural gas would be consumed more efficiently than most existing development due to compliance with the latest building standards.

Based on the above information, the proposed Project would not result in the inefficient or wasteful consumption of electricity or natural gas, and impacts would be less than significant.

*Transportation Energy Demand*

Table 14 provides an estimate of the daily and annual fuel consumed by vehicles traveling to and from the proposed Project. These estimates were derived using the same assumptions used in the operational air quality analysis for the proposed Project.

**Table 14  
Long-Term Operational Vehicle Fuel Consumption<sup>20</sup>**

Vehicle Type	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/ gallon)	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	52.77	2,832,926	30.14	257.5	93,984
Light Trucks (Pickups) and Medium Vehicles	43.21	2,319,703	22.05	288.2	105,201
Light-Heavy to Medium-Heavy Diesel Trucks	0.98	52,611	11.56	12.5	4,553
Heavy-heavy Trucks	2.14	114,885	5.96	52.8	19,275
Motorcycles	0.25	13,421	41.76	0.9	321
Other	0.65	34,895	7.56	12.6	4,617
<b>Total</b>	<b>100</b>	<b>5,368,441</b>	<b>—</b>	<b>624.5</b>	<b>227,951</b>

Notes:  
 VMT = vehicle miles traveled  
 Percent of Vehicle Trips and VMT provided by CalEEMod.  
 "Other" consists of buses and motor homes.  
 Source: Energy Consumption Calculations (Attachment C of Appendix A).

<sup>20</sup> Ibid.

As shown above, annual vehicular fuel consumption is estimated to be 227,951 gallons of gasoline and diesel fuel combined. Using rates calculated for the 2024 operational year, daily consumption is estimated at approximately 625 gallons of fuel (see Attachment C of Appendix A).

The daily vehicular fuel consumption is estimated to be 625 gallons of combined gasoline and diesel fuel. Annual consumption is estimated at 227,951 gallons. In addition, the proposed Project would constitute development within an established community and would not be opening a new geographical area for development. As such, the proposed Project would not result in unusually long trip lengths for future residents, visitors, or deliveries to the proposed single-family homes. The property is located near other residential land uses. The proposed Project would be well-positioned to accommodate an existing community and provide housing for planned growth. Vehicles accessing the site would be typical of vehicles accessing similar residential uses in the City of Farmersville, Tulare County, and surrounding areas. For these reasons, vehicular fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use activities in the region, and impacts would be *less than significant*.

**Mitigation Measures:** None are required.

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

**Less Than Significant Impact.** The Project proposes the construction of new residential development that would be built in accordance with all applicable rules and regulations. Compliance with established and applicable regulations would ensure that the project would not conflict with or obstruct any state or local plan for renewable energy or energy efficiency. Moreover, compliance with Title 24 standards would ensure that the proposed Project would not conflict with any energy conservation policies related to the proposed project's building envelope, mechanical systems, and indoor and outdoor lighting. Notably, the applicable Title 24 standards require the Project to include on-site renewable energy to serve the future project occupants and residents.

In addition, the proposed Project would constitute development within an established community. Specifically, the project site is adjacent to built-up areas of the City of Farmersville. As such, the Project would not be opening a new geographical area for development such that it would not result in unusually long trip lengths for future Project residents or visitors. In addition, the proposed residential development is specifically designed for increased walkability, facilitated by the proposed pedestrian connectivity throughout the Project site.

For the above reasons, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be *less than significant*.

**Mitigation Measures:** None are required.

## VII. GEOLOGY AND SOILS

### Would the project:

a. Expose people or structures to 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 most recently adopted Uniform Building Code

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

creating substantial risks to life or property?

- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?
- f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

RESPONSES

a-i. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

**No Impact.** The proposed Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone<sup>21</sup>. Since no known surface expression of active faults are believed to cross the site, fault rupture through the site is not anticipated. *No impacts* would occur.

**Mitigation Measures:** None are required.

a-ii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

**Less Than Significant Impact.** There are no known active earthquake faults in the City of Farmersville. The proposed Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The closest known faults likely to affect the community are the Independence fault and Owens Valley fault, located about 65 miles to the east along the base of the Sierra Nevada in the Owens Valley, and the San Andreas fault located about 70 miles to the southwest in the

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<sup>21</sup> California Earthquake Hazards Zone Application, California Department of Conservation. <https://maps.conservation.ca.gov/cgs/EOZApp/app/>. Accessed June 2023.

coastal range. According to the Five County Seismic Safety Element (FCSSE), Farmersville is located in the V-1 zone, defined as an area “of hard rock alluvium on valley floors”. The FCSSE further states that, “The distance to either of the faults expected to be a source of shaking is sufficiently great that shaking should be minimal and the requirements of the California Building Code Zone II should be adequate for normal facilities.”<sup>22</sup> Therefore, the impact is *less than significant*.

**Mitigation Measures:** None are required.

a-iii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

**Less Than Significant Impact.** Tulare County has extremely low seismic activity levels, although shaking may be felt from earthquakes whose epicenter lie to the south and west. The proposed Project would comply with existing building code standards or design and construction, which would minimize any impacts resulting from ground shaking or liquefaction. Due to the relatively flat topography of the proposed Project area, impacts associated with landslides are not anticipated. Impacts would be *less than significant*.

**Mitigation Measures:** None are required.

a-iv. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

**Less than Significant Impact.** The City of Farmersville sits on the floor of the San Joaquin Valley. The City is nearly flat which precludes the occurrence of landslides. Any potential impact is *less than significant*.

**Mitigation Measures:** None are required.

b. Result in substantial soil erosion or the loss of topsoil?

**Less than Significant Impact.** The City of Farmersville sits on top of the alluvial fans of the Kaweah River and its distributaries. The soil in the proposed Project area is characterized as moderately deep,

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<sup>22</sup> City of Farmersville General Plan Update Community Profile. 2002. Page 2-4.



well-drained, and with low shrink/swell potential.<sup>23</sup> The proposed Project site has a generally flat topography, is in an established urban area and does not include any Project features that would result in substantial soil erosion or loss of topsoil. Therefore, the impact is *less than significant*.

**Mitigation Measures:** None are required.

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?

**Less Than Significant Impact.** The City of Farmersville is nearly flat and soils in the area are moderately deep, well-drained with a low shrink/swell potential. See also Response a-ii. Any impacts would be *less than significant*.

**Mitigation Measures:** None are required.

d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?

**Less than Significant Impact.** See Responses (c) and (a-ii). The impact is *less than significant*.

**Mitigation Measures:** None are required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

**No Impact.** The Project will tie into the City's existing wastewater system and will not require the installation of septic tanks or alternate wastewater disposal system. There is *no impact*.

**Mitigation Measures:** None are required.

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<sup>23</sup> Ibid, page 2-2.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**Less Than Significant Impact.** As identified in the cultural evaluation performed for the project site, there are no known paleontological resources on or near the site (See Section V. for more details). Mitigation measures have been added that will protect unknown (buried) resources during construction, including paleontological resources. There are no unique geological features on site or in the area. Therefore, there is a *less than significant impact*.

**Mitigation Measures:** None are required.

## VIII. GREENHOUSE GAS EMISSIONS

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### RESPONSES

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The following information was provided by an Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum that was performed on behalf of the proposed Project by Johnson, Johnson & Miller Air Quality Consulting Services, report date June 20, 2023. The report can be read in its entirety in Appendix A.

**Less Than Significant.** The SJVAPCD’s *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a BAU analysis.<sup>24</sup> Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with “business as usual.”

The SJVAPCD has not yet adopted BPS for development projects that could be used to streamline the GHG analysis. For development projects, BPS means, “[a]ny combination of identified GHG emission

<sup>24</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. “Final Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act.” Website: [http://www.valleyair.org/programs/CCAP/11-05-09/1\\_CCAP\\_FINAL\\_CEQA\\_GHG\\_Draft\\_Staff\\_Report\\_Nov\\_05\\_2009.pdf](http://www.valleyair.org/programs/CCAP/11-05-09/1_CCAP_FINAL_CEQA_GHG_Draft_Staff_Report_Nov_05_2009.pdf). December 2009. Accessed May 24, 2023.

reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual.”

The 29 percent GHG reduction level is based on the target established by CARB’s AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession.<sup>25</sup> First occupancy at the Project site is expected to occur in 2024, which is after the AB 32 target year. The SJVAPCD has not updated its guidance to address SB 32 2030 targets or AB 1279 2045 targets. Therefore, whether the project’s GHG emissions would result in a significant impact on the environment is determined by assessing consistency with relevant GHG reduction plans.

**Quantification of Greenhouse Gas Emissions for Informational Purposes**

*Construction*

GHG emissions generated during all construction activities were combined and are shown in Table 15.

**Table 15  
Summary of Construction-Generated Greenhouse Gas Emissions<sup>26</sup>**

<b>Emissions Source</b>	<b>MT CO<sub>2e</sub> per Year</b>
Site Work and Internal Paving (2023)	197
Site Work and Internal Paving (2024)	171
Homes Construction (2023)	47
Homes Construction (2024)	459
Homes Construction (2025)	410
Homes Construction (2026)	209
<b>Project Construction Total</b>	<b>1,493</b>
<b>Amortized over 30 Years</b>	<b>49.8</b>
Notes: MT CO <sub>2e</sub> = metric tons of carbon dioxide equivalent Source: Modeling Assumptions and CalEEMod Output Files (Attachment A of Appendix A).	

<sup>25</sup> California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. Website: <http://www.arb.ca.gov/cc/scopingplan/document/updatescopingplan2013.htm>. Accessed May 24, 2023.

<sup>26</sup> Cameron Creek Residential Project—Farmersville, Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum. Johnson Johnson and Miller Air Quality Consulting Services. prepared on June 20, 2023. Appendix A.

*Operations*

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities. Operational GHG emissions associated with the proposed Project were estimated using CalEEMod 2022.1. Please see the “Assumptions” sections of the technical memorandum for details regarding assumptions and methodology used to estimate emissions. Operational GHG emissions for a full buildout scenario in the earliest operation year are shown in Table 16. Complete CalEEMod output files and additional supporting information are also included in Attachment A of Appendix A.

**Table 16**  
**Project Operational GHG Emissions (Buildout Year Scenario)<sup>27</sup>**

<b>Emission Source</b>	<b>Unmitigated Buildout Year Total Emissions (MT CO<sub>2</sub>e per year)</b>
Area	61
Energy	570
Mobile (Automobiles)	1,944
Refrigerants	0.35
Water	15
Waste	48
<b>Total (MT CO<sub>2</sub>e per year)</b>	<b>2,638</b>
<i>Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A of Appendix A).</i>	

The City of Farmersville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines. The County of Tulare has adopted Climate Action Plan; however, the County of Tulare’s Climate Action Plan is only applicable to unincorporated areas of Tulare County. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the Project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the project. Since no other local or regional Climate Action Plan is in place, the Project is assessed for its consistency with CARB’s adopted Scoping Plans.

**Consistency with CARB’s Adopted Scoping Plans**

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<sup>27</sup> Ibid.

*Consistency with AB 32 and CARB’s 2008 Scoping Plan*

The State’s regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted, and the effectiveness of those regulations has been estimated by the agencies during the adoption process and then tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Former Governor Brown, in the introduction to Executive Order B-30-15, stated “California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32).”

*Consistency with SB 32 and CARB’s 2017 Scoping Plan*

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. Table 17 provides an analysis of the project’s consistency with the 2017 Scoping Plan Update measures.

**Table 17**  
**Consistency with SB 32 2017 Scoping Plan Update**

Scoping Plan Measure	Project Consistency
<b>SB 350 50% Renewable Mandate.</b> Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030. <i>(The requirement is now 60% in 2030 per SB 100.)</i>	<b>Consistent:</b> The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
<b>SB 350 Double Building Energy Efficiency by 2030.</b> This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	<b>Not Applicable.</b> This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. New buildings (single-family homes) constructed as part of the proposed project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received. The current Title 24 regulations are the 2022 Title 24 standards, which become effective January 1, 2023.
<b>Low Carbon Fuel Standard.</b> This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	<b>Consistent.</b> This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the project site would be subject to the standards. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
<b>Mobile Source Strategy (Cleaner Technology and Fuels Scenario).</b> Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by	<b>Consistent.</b> Future project residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. In addition, home deliveries will be

Scoping Plan Measure	Project Consistency
2030 and increasing numbers of ZEV trucks and buses.	made by increasing numbers of ZEV delivery trucks as the statewide fleet is expected to get cleaner over time.
<b>Sustainable Freight Action Plan.</b> The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	<b>Not Applicable.</b> The measure applies to owners and operators of trucks and freight operations. The project is residential in nature and would not be considered an industrial use or a large freight operator. However, home deliveries are expected to be made by increasing numbers of ZEV delivery trucks as technology continues to improve accessibility to ZEV vehicles and as regulations are phased in over time.
<b>Short-Lived Climate Pollutant (SLCP) Reduction Strategy.</b> The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	<b>Consistent.</b> The project will only include natural gas hearths that produce very little black carbon compared with wood burning fireplaces and heaters in line with the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts mitigation measures. <sup>1</sup>
<b>SB 375 Sustainable Communities Strategies.</b> Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	<b>Consistent.</b> The project will provide residential development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT.
<b>Post-2020 Cap-and-Trade Program.</b> The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	<b>Consistent.</b> The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
<b>Natural and Working Lands Action Plan.</b> CARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	<b>Not Applicable.</b> The project is residential development and will not be considered natural or working lands.
<p>Source: California Air Resources Board (CARB). 2017. <i>The 2017 Climate Change Scoping Plan Update</i>. January 20. Website: <a href="https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf">https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf</a>. Accessed June 16, 2023.</p>	

Scoping Plan Measure	Project Consistency
<sup>1</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. <i>Guidance for Assessing and Mitigating Air Quality Impacts</i> . Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMA">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMA</a> . Accessed June 16, 2023.	

As described in Table 17, the proposed project would be consistent with applicable 2017 Scoping Plan Update measures and would not obstruct the implementation of others that are not applicable. The State’s regulatory program is able to target both new and existing development because the two most important strategies, motor vehicle fuel efficiency and emissions from electricity generation, obtain reductions equally from existing sources and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as the Pavley standards that apply to all vehicles purchased in California, the LCFS (Low Carbon Fuel Standard) that applies to all fuel sold in California, and the Renewable Portfolio Standard and Renewable Energy Standard under SB 100 that apply to utilities providing electricity to all California end users.

Moreover, the Scoping Plan strategy will achieve more than average reductions from energy and mobile source sectors that are the primary sources related to development projects and lower than average reductions from other sources such as agriculture. The proposed residential project’s operational GHG emissions would principally be generated from electricity consumption and vehicle use, which are directly under the purview of the Scoping Plan strategy and have experienced reductions above the State average reduction. Considering the information summarized above, the proposed Project would be consistent with the State’s AB 32 and SB 32 GHG reduction goals.

*Consistency Regarding GHG Reduction Goals for 2050 under Executive Order S-3-05 and GHG Reduction Goals for 2045 under CARB’s 2022 Scoping Plan*

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the proposed Project would comply with whatever measures are enacted that State lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, CARB acknowledged that the “measures needed to meet the 2050 are too far in the future to define in detail.” In the First Scoping Plan Update; however, CARB generally described the type of activities required to achieve the 2050 target: “energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy



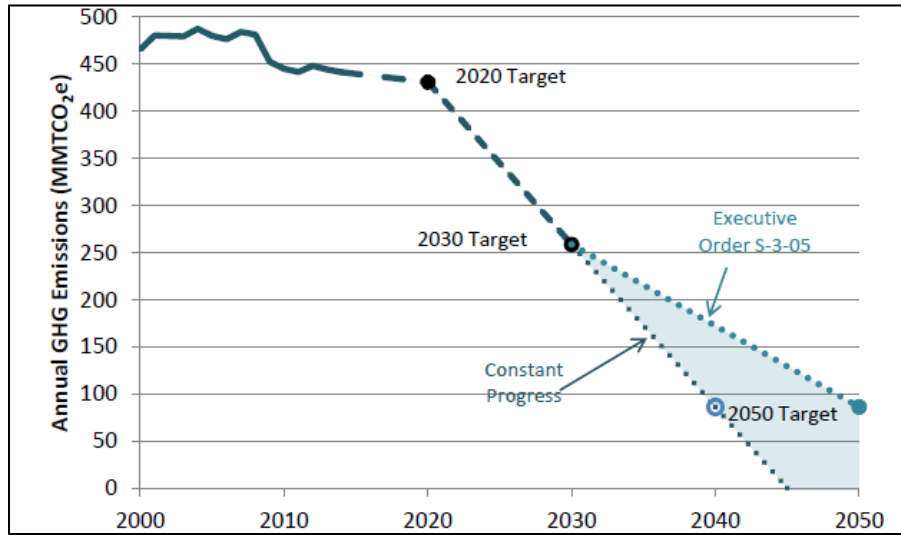
technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.”

CARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: “These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California’s GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate.” In addition, CARB’s First Update “lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050,” and many of the emission reduction strategies recommended by CARB would serve to reduce the proposed Project’s post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California’s appliance and building energy efficiency programs and initiatives, such as the State’s zero net energy building goals, would serve to reduce the proposed project’s emissions level. Additionally, further additions to California’s renewable resource portfolio would favorably influence the Project’s emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the Project’s emissions level.
- **Water Sector:** The Project’s emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the Project’s emissions level.

For the reasons described above, the Project’s post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 4.

**Figure 4**  
**Path to Achieving 2050 Emissions Targets**



Source: CARB 2017 Scoping Plan Update

In his January 2015 inaugural address, former Governor Brown expressed a commitment to achieve “three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions:

- Increasing the State’s Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State’s environmental policy objectives, particularly those relating to global climate change. Studies show that the State’s existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.

Given the proportional contribution of mobile source-related GHG emissions to the State’s inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based

applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed Project’s future emissions trajectory is expected to follow a declining trend, consistent with the 2030, 2045, and 2050 targets.

The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target. In addition, the 2022 Scoping Plan outlines objectives, regulations, planning efforts, and investments in clean technologies and infrastructure that outlines how the State can achieve carbon-neutrality by 2045. Accordingly, taking into account the proposed Project’s design features and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the proposed Project would be consistent with State GHG Plans and would further the State’s goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

### **Impact Analysis Summary**

As described above, the proposed Project would be consistent with State GHG Plans and would not obstruct the State’s ability to meet its goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050. Therefore, the Project’s generation of GHG emissions would result in *less than significant* impacts.

**Mitigation Measures:** None are required.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Less Than Significant.** As discussed under Impact VIII(a), neither the City of Farmersville nor the County of Tulare have adopted a GHG reduction plan that would be applicable to the proposed Project. In addition, the City of Farmersville has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the Project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the Project.

The County of Tulare has adopted Climate Action Plan; however, the County of Tulare’s Climate Action Plan is only applicable to unincorporated areas of Tulare County and would not be applicable to the

proposed Project. Since no other local or regional Climate Action Plan is in place, the Project is assessed for its consistency with CARB's adopted Scoping Plans. This assessment is included under Impact VIII(a) above. As demonstrated in the analysis contained under Impact VIII(a), the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases. This impact would be *less than significant*.

**Mitigation Measures:** None required.

## IX. HAZARDS AND HAZARDOUS MATERIALS

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

RESPONSES

- a. 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 proposed Project includes the construction of up to 151 single-family residential homes, including one park across 1.13 acres, and internal access roads, lighting, landscaping, and associated improvements. Proposed Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the project site. Therefore, no significant impacts would occur during construction activities.

The operational phase of the proposed Project would occur after construction is completed and residents move in to occupy the structures on a day-to-day basis. The proposed Project includes land uses that are considered compatible with the surrounding uses. None of these land uses routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common residential grade hazardous materials such as household and commercial cleaners, paint, etc. The proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be *less than significant*.

**Mitigation Measures:** None are required.

- 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?

**Less than Significant Impact.** See Response a. above. Any accumulated hazardous construction or operational wastes will be collected and transported away from the site in compliance with all federal, state and local regulations. Any impacts would be *less than significant*.

**Mitigation Measures:** None are required.

c. 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.** Farmersville Junior High School is approximately 500 ft. to the northeast of the proposed Project site, and Snowden Elementary school is located approximately 2500 ft. to the southeast. As the proposed Project includes the development of single-family residences, it is not reasonably foreseeable that the proposed Project will cause a significant impact by emitting hazardous waste or bringing hazardous materials within one-quarter mile of an existing or proposed school. Residential land uses do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials. See also Responses a. and b. regarding hazardous material handling. The impact is *less than significant*.

**Mitigation Measures:** None are required.

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?

**No Impact.** The proposed Project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Geotracker and DTSC Envirostor databases – accessed in June 2023). There are no hazardous materials sites that impact the Project. As such, *no impacts* would occur that would create a significant hazard to the public or the environment.

**Mitigation Measures:** None are required.

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 for people residing or working in the project area?

**No Impact.** The proposed Project site is approximately five miles northwest of the Exeter Airport and the airport's safety zones do not extend into the City of Farmersville. There is *no impact*.

**Mitigation Measures:** None are required.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**Less Than Significant Impact.** The Project will not interfere with any adopted emergency response or evacuation plan. Construction activities will take place within right-of-ways of existing roadways. Construction activities will be temporary in nature and will not cause any road closures that could interfere with any adopted emergency response or evacuation plan. The construction contractor will be required to work with the City and County (public works, police/fire, etc.) if and when roadway diversions are required to ensure that adequate access is maintained for residents and emergency vehicles. There is *less than significant impact*.

**Mitigation Measures:** None are required.

g. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

**No Impact.** There are no wildlands on or near the Project site. There is *no impact*.

**Mitigation Measures:** None are required.



## X. HYDROLOGY AND WATER QUALITY

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Result in substantial erosion or siltation on- or off- site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## X. HYDROLOGY AND WATER QUALITY

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The City of Farmersville provides water services to all residential, commercial, and industrial customers, as well as to the unincorporated Cameron Creek Colony through the operation of eight City owned water wells that produce up to two million (2,000,000) gallons of water per day. The proposed Project site is within the Farmersville service area.

The Kaweah Basin is the source of all drinking water supply for the City of Farmersville and surrounding communities. The Kaweah Delta Water Conservation District (KDWCD) manages the Basin. KDWCD and other irrigation districts and companies have historically managed groundwater through the conjunctive use of surface water. KDWCD regularly provides programs that benefit local agricultural customers by making available additional surface water supplies for irrigation. These programs effectively reduce the withdrawals of groundwater resulting in in-lieu recharge of the aquifer. Groundwater is normally used by agriculture as an alternate source when surface supplies are not available and is the sole source in areas within KDWCD jurisdiction that do not have access to surface water.

### RESPONSES

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

**Less than Significant Impact.** The proposed Project includes the construction of up to 151 single-family residential homes, including one park across 1.13 acres, and internal access roads, lighting, landscaping, and associated improvements. The Project will comply with all City ordinances and standards to assure

proper grading and drainage. Compliance with all local, state, and federal regulations will prevent violation of water quality standards or waste discharge requirements. The proposed Project will be required to prepare a grading and drainage plan for review and approval by the City Engineer, prior to issuance of building permits.

The proposed Project will result in wastewater from residential units that will be discharged into the City's existing wastewater treatment system. The wastewater will be typical of other urban/residential developments consisting of bathrooms, kitchen drains and other similar features. The Project will not discharge any unusual or atypical wastewater. Site buildout has been planned for and anticipated. Therefore, the proposed Project will not result in additional production of wastewater that was not already accounted for in the City's infrastructure planning documents.

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

**Mitigation Measures:** None are required.

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

**Less Than Significant Impact.** The City of Farmersville is located in the Kaweah Subbasin area and falls under the Greater Kaweah Groundwater Sustainability Agency (GKGSA). The Kaweah Subbasin is classified as high priority, according to California Water Code § 10933 (b) and has been designated a critically overdrafted by the California Department of Water Resources (DWR).<sup>28</sup> GKGSA acknowledges a continuing decline in groundwater levels of the aquifer system below the Farmersville area. The City of Farmersville's water supply comes from groundwater extraction. The proposed Project area has been designated for urban uses, and the City of Farmersville will provide water services to the Project area upon development. To assist in mitigating the groundwater decline, the City of Farmersville has established fees that are charged to new developments, which will fund groundwater recharge and other water resource projects within the City.

The site has been planned for urban development in the General Plan and as such, has been accounted for in the City infrastructure planning documents. Project demands for groundwater resources would

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<sup>28</sup> Executive Summary, Greater Kaweah Groundwater Sustainability Agency Groundwater Sustainability Plan. January 2020.

<https://greaterkawahgsa.org/resources/>.

not substantially deplete groundwater supplies and/or otherwise interfere with groundwater recharge efforts being implemented by the City of Farmersville. Future demand can be met with continued groundwater pumping, surface water purchases and conservation measures.

Impacts would be *less than significant*.

**Mitigation Measures:** None are required.

- 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 offsite;
  - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - iv. impede or redirect flood flows?

**Less Than Significant Impact.** The Project site currently supports agricultural row crops. The proposed Project will change drainage patterns of the site through the installation of impervious surfaces and structures (houses, driveways, streets, etc.) and will be required by the City to be graded to facilitate proper stormwater drainage into the stormwater basin included with the Project. Storm water during construction will be managed as part of the Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP will be retained on-site during construction.

The proposed Project site is located within the FEMA Flood Zone "X", Area of Minimal Flood Hazard.<sup>29</sup> The eastern portion of the site is within the FIRM panel 06107C0962E, and the western portion is in 06107C0965E, effective 6/15/2009. The residential units will be built in accordance with the current California Building Code. Accordingly, the chance of flooding (and therefore the release of pollutants due to flooding) at the site is remote.

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<sup>29</sup> National Flood Hazard Layer Viewer, Federal Emergency Management Agency. <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>. Accessed July, 2023.

Impacts are *less than significant*.

**Mitigation Measures:** None are required.

- 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?

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

Unnamed canals border the eastern, northern, and western of the Project site. Appropriate buffers will be maintained with these canals. There are no inland water bodies that could be potentially susceptible to a seiche in the Project vicinity. This precludes the possibility of a seiche inundating the Project site. The Project site is more than 100 miles from the Pacific Ocean, a condition that precludes the possibility of inundation by tsunami. There are no steep slopes that would be susceptible to a mudflow in the Project vicinity, nor are there any volcanically active features that could produce a mudflow in the City of Farmersville. This precludes the possibility of a mudflow inundating the Project site.

Any impacts are *less than significant*.

**Mitigation Measures:** None are required.

LAND USE AND PLANNING

**Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

RESPONSES

- a. Physically divide an established community?
- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

**No Impact.** The proposed Project is located within the western portion of the City of Farmersville, in an area of suburban residential, commercial, and agricultural land uses. The proposed Project site is primarily zoned R-1 (Single Family Residential) and C-G (General Commercial) and is considered Medium Density Residential and General Commercial by the Farmersville General Plan. Additionally, the applicant requests a zone change to RM-2.5 where the land will be designated Medium High Density Residential and P/QP where the land will be designated Open Space. A General Plan Amendment will also be required to designate the General Commercial area to Medium-High Density Residential, and a portion of the Medium Density Residential area to Open Space. Upon approval the Project will be in compliance with the General Plan and zoning ordinance.

The Project includes a 151-unit maximum single-family housing development with a 1.13-acre park and the associated improvements on approximately 36.51 acres of land. The Project has no characteristics that would physically divide the City of Farmersville. Access to the existing surrounding areas will be improved.

*No impacts* would occur as a result of this Project.

**Mitigation Measures:** None are required.

## XII. MINERAL RESOURCES

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### RESPONSES

- 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?

**No Impact.** The most economically important minerals that are extracted in Tulare County are sand, gravel, crushed rock, and natural gas. The four streams that have provided the main source of high-quality sand and gravel in Tulare County to make Portland cement concrete and asphaltic concrete are the Kaweah River, Lewis Creek, Deer Creek and the Tule River<sup>30</sup>.

The proposed Project area is not included in a State classified mineral resource zone<sup>31</sup>, and the Kaweah River is approximately 2.5 miles northwest of the Project site. Therefore, there is *no impact*.

**Mitigation Measures:** None are required.

<sup>30</sup> Tulare County General Plan 2030 Update Recirculated Draft EIR. February 2010. Page 3.7-9.

<sup>31</sup> Ibid. Page 3.7-10.

XIII. NOISE

**Would the project:**

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

RESPONSES

- 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 groundborne vibration or groundborne noise levels?

**Less than Significant Impact.** The City of Farmersville General Plan does not include a noise element, but rather states that the City has adopted Tulare County’s Noise Element. The County of Tulare Noise Element of the General Plan (August 2012) establishes noise level criteria in terms of the Day-Night Average Level (Ldn) metric. The Ldn is the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The Ldn represents cumulative exposure to noise over an extended period of time and is therefore calculated based upon *annual average* conditions.



Site development may increase ambient noise levels in the Project vicinity beyond those already present on the site from the residential activity. In the short term, noise levels would be raised during construction of the Project phases by the operation of heavy equipment and other associated activities. Because construction noise would generally occur intermittently on Monday through Saturdays during daylight hours, per the Farmersville Noise Ordinance, the impact of noise in surrounding land uses is not expected to be significant.

In the long term, any development would add traffic and other sources of noise that will somewhat increase the ambient noise levels in the vicinity. However, these noise levels should be relatively consistent with those experienced in the area and other existing developed areas of Farmersville.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. Construction associated with the proposed Project includes the construction of residences and roadways.

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

**Table 18**  
**Typical Construction Vibration Levels**

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the Federal Transit Authority threshold for the nearest residences which are located adjacent to the Project site on the eastern and western boundaries. As such, any impacts resulting from an increase in ambient noise levels or excessive groundborne vibration will be *less than significant*.

- 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 an airport land use plan. Therefore, there is *no impact*.

**Mitigation Measures:** None are required.

## XIV. POPULATION AND HOUSING

### Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### RESPONSES

- a. Induce substantial 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.** The proposed Project would include the construction of up to 151 single-family residences, one park, internal access roads, and other associated improvements. Based on the per-unit average of 3.75 persons for the City of Farmersville<sup>32</sup>, the site would provide housing for approximately 567 people. The site is currently designated for residential and commercial purposes within the City of Farmersville. As such, the site is planned for development and the associated increase in population has been accounted for. As such, any impacts are *less than significant*.

**Mitigation Measures:** None are required.

- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

<sup>32</sup> E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2023, State of California Department of Finance. <https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/>. Accessed June 2023.

**Less than Significant.** There are no residential structures currently on-site. The Project will not displace any housing and therefore there is *less than significant*.

**Mitigation Measures:** None are required.

XV. PUBLIC SERVICES

**Would the project:**

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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- 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

RESPONSES

- 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 Farmersville Fire Department maintains a fleet of specialized fire apparatus including a 4-wheel drive Brush Fire Patrol Unit, a Quick Attack Squad Unit (250 GPM Pumper), an Engine (1,500 GPM Pumper), a 55 Ft. Ladder Truck (1,500 GPM Pumper), and several Command/Utility Vehicles.

The Project site is already serviced by the Fire Department. The proposed Project at full buildout will add to the number of “customers” served, however, the Fire Department has capacity for the additional service need. No additional fire equipment, personnel, or services will be required by Project implementation. In addition, the Project applicant will be required to pay all associated impact fees related to public services.

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

#### Police Protection?

**Less than Significant Impact.** The proposed Project site will continue to be served by the City of Farmersville police department. Implementation of the proposed Project would result in an increase in demand for police services; however, this increase would be minimal compared to the number of officers currently employed by the Farmersville Police Department and would not trigger the need for new or physically altered police facilities. No additional police personnel or equipment is anticipated. In addition, each home will be assessed a public safety impact fee by the City that is used to make capital improvements for the Police Department. The impact is *less than significant*.

#### Schools?

**Less than Significant Impact.** The proposed Project site is located within the Farmersville Unified School District. Pursuant to California Education Code Section 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The Project applicant would be required to pay such fees to reduce any impacts of new residential development of school services. Payment of the developer fees will offset the addition of school-age children within the district. As such, any impacts would be *less than significant*.

#### Parks?

**Less than Significant Impact.** The City Municipal Code states that parks must be constructed or expanded commensurate with growth of the City. A 1.13-acre park will be constructed within the bounds of the proposed Project site. To ensure sufficient recreational opportunities, the City has also established a Park Impact Fee, implemented by Chapter 4.01, Development Fees, of the Municipal Code. The City Council determined that a park impact fee is required to assist in the financing of public park improvements and to pay for new development’s fair share of the acquisition and development costs of these improvements. The Project applicant would be required to comply with the Municipal Code. As such, any impacts would remain *less than significant*.

#### Other public facilities?

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

**Mitigation Measures:** None are required.

XVI. RECREATION

**Would the project:**

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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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?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

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

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.** As described in Impact XIV(a), the City has established a Park Impact Fee through the Municipal Code, which states that parks must be constructed or expanded commensurate with growth of the City. One park across 1.13 acres is included in the development design; however, the Project applicant will also be required to comply with that Municipal Code, as well as any fees that apply, and as such, any impacts will be *less than significant*.

**Mitigation Measures:** None are required.

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 proposed Project includes the development of one park across 1.13 acres, the environmental impacts of which are the subject of this environmental document. As determined by the analysis contained within this document, *less than significant impacts* would occur.

**Mitigation Measures:** None are required.

XVII. TRANSPORTATION/TRAFFIC

**Would the project:**

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

The impact analysis in this resource area is based off of the Traffic Study prepared by Ruetters & Schuler Civil Engineering in July, 2023. The Traffic Study is provided in Appendix C of this document.

The traffic study methodology and vehicle miles traveled analysis is consistent with the California Department of Transportation (Caltrans) "Guide for the Preparation of Traffic Impact Studies," dated December 2002, County of Tulare "SB 743 Guidelines" dated June 8, 2020, and Section 15064.3(b) of the California Environmental Quality Act (CEQA), which became effective July 1, 2020. The scope of the study includes 12 intersections (three signalized, seven stop-controlled, and two roundabouts) and was developed in coordination with staff from the City of Farmersville and Caltrans.

RESPONSES

a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

**Less than Significant Impact with Mitigation.** The City of Farmersville General Plan Circulation Element contains Goals, Objectives and Action Plans to Ensure that streets in Farmersville are not congested and that the traffic on Farmersville’s streets operates in an efficient and safe manner. Objective



1 states that “A level of service C will be the desirable minimum service level in Farmersville at which intersections will operate.

*Trip Generation*

The Project trip generation volumes shown in Table 19 were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Trip rates, equations, and directional splits for ITE Land Use Code 210 (Single Family Detached Housing) were used to estimate Project trips for weekday peak hour of adjacent street traffic. The AM and PM peak hours of adjacent street traffic were determined to be between 6:00 AM and 7:00 AM, and between 4:00 PM and 5:00 PM, based on a review of two-hour AM & PM peak hour vehicle turn movement counts taken March 2022.

**Table 19  
Project Trip Generation<sup>33</sup>**

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	151 Dwelling Units	eq	1474	eq	26% 27	74% 81	eq	63% 92	37% 54

*Trip Distribution and Assignment*

The distribution of Project peak hour trips is shown in Table 20 and represents the movement of traffic accessing the Project site by direction. The Project trip distribution was developed based on site location and travel patterns anticipated for the proposed land uses.

**Table 20  
Project Trip Distribution<sup>34</sup>**

Direction	Percent
North	10
East	15
South	10
West	65

<sup>33</sup> Traffic Study for the Cameron Creek Subdivision in the City of Farmersville. Prepared in July, 2023. Appendix C, Page 6

<sup>34</sup> Ibid, page 7.

*Existing and Future Traffic*

Existing peak hour turning movement counts were obtained in March and July 2022 and grown out to 2023. Average annual growth rates ranging between 1.10 and 2.25 percent were applied to the 2023 peak hour volumes to estimate peak hour volumes for the year 2043. These growth rates were developed based on a review of historical count data and output from TCAG’s regional travel demand model as well as a discussion with the City of Farmersville Planning Consultant. Cumulative volumes were estimated based on information provided by the City of Farmersville regarding build year, land use, size, and location for each pending development. See Appendix C for Figures.

*Intersection Analysis*<sup>35</sup>

A capacity analysis of the study intersections was conducted using Synchro software from Trafficware. This software utilizes the capacity analysis methodology in the Transportation Research Board’s Highway Capacity Manual (HCM) 2010. The analysis was performed for each of the following traffic scenarios.

- Existing (2023)
- Existing (2023) + Project
- Future Cumulative (2043)
- Future Cumulative (2043) + Project

Level of service (LOS) criteria for unsignalized and signalized intersections, as defined in HCM 2010, are presented in the tables below. The City of Farmersville’s Circulation Element designates LOS C as the minimum acceptable intersection peak hour level of service.

**Table 21  
Level of Service Criteria Unsignalized Intersection**

Level of Service	Average Control Delay (sec/veh)	Expected Delay to Minor Street Traffic
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short delays
C	> 15 and ≤ 25	Average delays
D	> 25 and ≤ 35	Long delays
E	> 35 and ≤ 50	Very long delays
F	> 50	Extreme delays

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<sup>35</sup> Ibid. Page 30.

**Table 22**  
**Level of Service Criteria Signalized Intersections**

Level of Service	Average Control Delay (sec/veh)	Volume-to-Capacity Ratio
A	≤ 10	< 0.60
B	> 10 and ≤ 20	0.61 - 0.70
C	> 20 and ≤ 35	0.71 - 0.80
D	> 35 and ≤ 55	0.81 - 0.90
E	> 55 and ≤ 80	0.91 - 1.00
F	> 80	> 1.00

Peak hour level of service for the study intersections is presented in Tables 23 and 24. Intersection delay in seconds per vehicle is shown within parentheses for intersections operating below LOS C.

**Table 23**  
**Intersection Level of Service Weekday PM Peak Hour <sup>36</sup>**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project	2043+ Project w/Mitigation <sup>1</sup>
1	Farmersville Rd & Ave 296	AWSC	B	B	C	C	-
2	SR 198 EB Ramps & Ave 296	NB	B	C	C	C	-
3	SR 198 EB Ramps & Ave 295	Roundabout	A	A	A	B	-
4	Farmersville Rd & Ave 295	Roundabout	A	A	B	B	-
5	Farmersville Rd & Walnut Ave/W Walnut Ave	Signal	C	C	C	C	-
6	Farmersville Rd & Front St	AWSC	C	C	F (71.2)	F (80.7)	-
		Signal	-	-	-	-	B
7	Rd 156 & Visalia Rd	Signal	B	B	C	C	-
8	Hacienda Dr & Visalia Rd	AWSC	-	A	F (113.4)	F (116.7)	-
		Signal	-	-	-	-	C
9	Virginia Ave & Visalia Rd	NB	B	C	C	D (25.3)	-
		Signal	-	-	-	-	C
10	Steven Ave & Visalia Rd	SB	B	B	C	C	-

<sup>36</sup> Ibid, page 14.

11	Ventura Ave & Visalia Rd	NB	C	C	C	C	-
12	Farmersville Rd & Visalia Rd	Signal	B	B	C	C	-
<p>1 See Table 29 for mitigation measures.                  2 Reconfigure intersection median in the future condition to preclude northbound left turns.</p>							

**Table 24**  
**Intersection Level of Service Weekday AM Peak Hour <sup>37</sup>**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project	2043+ Project w/Mitigation <sup>1</sup>
1	Farmersville Rd & Ave 296	AWSC	B	B	C	C	-
2	SR 198 EB Ramps & Ave 296	NB	B	B	C	C	-
3	SR 198 EB Ramps & Ave 295	Roundabout	A	A	A	B	-
4	Farmersville Rd & Ave 295	Roundabout	A	A	B	B	-
5	Farmersville Rd & Walnut Ave/W Walnut Ave	Signal	B	B	C	C	-
6	Farmersville Rd & Front St	AWSC	A	A	C	C	-
		Signal	-	-	-	-	B <sup>2</sup>
7	Rd 156 & Visalia Rd	Signal	B	B	B	B	-
8	Hacienda Dr & Visalia Rd	AWSC	-	A	C	C	-
		Signal	-	-	-	-	B <sup>2</sup>
9	Virginia Ave & Visalia Rd	NB	B	B	B	B	-
		Signal	-	-	-	-	B <sup>2</sup>
10	Steven Ave & Visalia Rd	SB	B	B	C	C	-
11	Ventura Ave & Visalia Rd	NB	B	B	A <sup>3</sup>	A <sup>3</sup>	-
12	Farmersville Rd & Visalia Rd	Signal	B	B	C	C	-
<p>1 See Table 29 for mitigation measures.                  2 Mitigation required due to PM Peak Hour                  3 Reconfigure intersection median in the future condition to preclude northbound left turns.</p>							

*Traffic Signal Warrant Analysis*

Peak hour signal warrants were evaluated for the one unsignalized intersection within the study based on the 2014 California Manual on Uniform Traffic Control Devices (2014 CA MUTCD). Peak hour signal

<sup>37</sup> Ibid, page 15.

warrants assess delay to traffic on minor street approaches when entering or crossing a major street. Signal warrant analysis results are shown in Tables 25 and 26.

**Table 25**  
**Traffic Signal Warrants Weekday PM Peak Hour<sup>38</sup>**

#	Intersection	2023			2023+Project			2043			2043+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Farmersville Rd at Ave 296	396	162	NO	405	162	NO	593	237	YES	602	237	YES
2	SR 198 EB Ramps at Ave 296	561	64	NO	570	70	NO	781	103	NO	790	109	NO
6	Farmersville Rd at Front St	1081	123	YES	1146	126	YES	1695	172	YES	1760	175	YES
8	Hacienda Dr at Visalia Rd	-	-	-	19	0	NO	1540	64	NO	1559	64	NO
9	Virginia Ave at Visalia Rd	793	24	NO	812	24	NO	1180	39	NO	1199	39	NO
10	Steven Ave at Visalia Rd	785	41	NO	851	41	NO	1179	72	NO	1245	110	YES
11	Ventura Ave at Visalia Rd	899	72	NO	984	72	NO	1205	97	YES	1290	97	YES

**Table 26**  
**Traffic Signal Warrants Weekday AM Peak Hour<sup>39</sup>**

#	Intersection	2023			2023+Project			2043			2043+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Farmersville Rd at Ave 296	345	107	NO	358	107	NO	506	156	NO	519	156	NO
2	SR 198 EB Ramps at Ave 296	431	37	NO	444	38	NO	601	60	NO	614	61	NO
6	Farmersville Rd at Front St	393	99	NO	443	100	NO	651	137	NO	701	138	NO
8	Hacienda Dr at Visalia Rd	-	-	-	15	0	NO	743	78	NO	758	78	NO
9	Virginia Ave at Visalia Rd	341	23	NO	356	23	NO	522	38	NO	537	38	NO
10	Steven Ave at Visalia Rd	304	50	NO	324	58	NO	482	68	NO	502	114	NO
11	Ventura Ave at Visalia Rd	351	36	NO	414	36	NO	511	49	NO	574	49	NO

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered in order to determine whether signals are truly justified.

<sup>38</sup> Ibid, page 16.

<sup>39</sup> Ibid.

It is also noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service or operate below an acceptable level of service and not meet signal warrant criteria.

*Roadway Analysis*

A capacity analysis of the study roadways was conducted using Table 4 in the State of Florida Department of Transportation *Quality/Level of Service Handbook* dated June 2020. The City of Farmersville Circulation Element states that the peak hour level of service for roadways shall be no lower than LOS “C” for urban areas. The analysis was performed for the following traffic scenarios:

- Existing (2023)
- Existing (2023) + Project
- Future Cumulative (2043)
- Future Cumulative (2043) + Project

**Table 27  
PM Roadway Level of Service<sup>40</sup>**

Street	2023 Two-Way LOS		2023+Project Two-Way LOS		2043 Two-Way LOS		2043+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Ave 296: Farmersville Rd to SR 198 WB Ramps	539	C	564	C	805	C	830	C
Ave 295: SR 198 EB Ramps Farmersville Rd	639	C	682	C	1051	C	1097	C
Visalia Rd: Rd 156 to Hacienda Dr	936	C	980	C	1528	D	1572	C
Visalia Rd: Hacienda Dr to Virginia Ave	790	C	834	C	1478	D	1522	C
Visalia Rd: Virginia Ave to Steven Ave	796	C	840	C	1177	C	1221	C
Visalia Rd: Steven Ave to Ventura Ave	881	C	1031	C	1183	C	1333	C
Visalia Rd: Ventura Ave to Farmersville Rd	886	C	1036	C	1193	C	1304	C
Farmersville Rd: Visalia Rd to Font St	891	C	1014	C	1423	C	1546	C
Farmersville Rd: Font St Walnut St	1234	C	1350	C	1893	C	2009	C
Farversville Rd: Walnut St to Ave 295	816	C	870	C	1392	C	1463	C
Farversville Rd: Ave 295 to Ave 296	605	C	630	C	945	C	970	C

<sup>40</sup> Ibid, page 18.

**Table 28**  
**AM Roadway Level of Service<sup>41</sup>**

Street	2023 Two-Way LOS		2023+Project Two-Way LOS		2043 Two-Way LOS		2043+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Ave 296: Farmersville Rd to SR 198 WB Ramps	413	C	436	C	611	C	634	C
Ave 295: SR 198 EB Ramps Farmersville Rd	292	C	311	C	527	C	546	C
Visalia Rd: Rd 156 to Hacienda Dr	403	C	433	C	777	C	808	C
Visalia Rd: Hacienda Dr to Virginia Ave	343	C	374	C	717	C	748	C
Visalia Rd: Virginia Ave to Steven Ave	337	C	377	C	532	C	563	C
Visalia Rd: Steven Ave to Ventura Ave	365	C	475	C	530	C	640	C
Visalia Rd: Ventura Ave to Farmersville Rd	349	C	459	C	510	C	620	C
Farmersville Rd: Visalia Rd to Font St	365	C	454	C	612	C	701	C
Farmersville Rd: Font St Walnut St	528	C	612	C	833	C	917	C
Farversville Rd: Walnut St to Ave 295	480	C	522	C	896	C	938	C
Farversville Rd: Ave 295 to Ave 296	471	C	494	C	743	C	766	C

*Intersection Improvements*

Intersection improvements needed by the year 2043 to maintain or improve the operational level of service of the street system in the Project vicinity are presented in Table 29.

**Table 29**  
**Future Intersection Improvements<sup>42</sup>**

#	Intersection	Total Improvements Required by 2043	Project Share
6	Farmersville Rd & Front St	Signal	8.83%
8	Hacienda Dr & Visalia Rd	Signal	1.17%
9	Virginia Ave & Visalia Rd	Signal	4.51%

Project percent share is calculated using the following formula:

<sup>41</sup> Ibid, page 19.

<sup>42</sup> Ibid, page 20.

$$\% \text{ Share} = \frac{\text{Project Traffic}}{(\text{Future+Project Traffic}) - \text{Existing Traffic}} \times 100\%$$

In summary, all roadway segments within the scope of the study currently operate above LOS C during peak hours prior to, and with the addition of Project traffic in both 2023 and 2043. All study intersections currently operate at or above LOS C during peak hours prior to and with the addition of Project traffic.

In 2043, it is anticipated that the intersections of Farmersville Road & Front Street, Hacienda Drive & Visalia Road, and Ventura Avenue & Visalia Road will operate below an acceptable level of service prior to the addition of Project traffic. All remaining intersections operate at an acceptable level of service prior to and with the addition of Project traffic. The intersections can be mitigated to acceptable levels of service with a traffic signal. The median at the intersection of Ventura Avenue & Visalia Road should be modified to preclude northbound left turns. With the addition of the mitigation measure identified in Table 29, all intersections will operate at acceptable levels.

As such, potential impacts will be *less than significant with mitigation incorporation*.

#### **Mitigation Measures:**

##### **TRA-1**

The Applicant shall pay the City of Farmersville for their Fair Share Portion of the intersection improvements described in Table 29, in order to maintain or improve the operational level of service of the street system in the Project vicinity.

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

**Less Than Significant with Mitigation.** An evaluation of vehicle miles traveled (VMT) for project traffic was conducted in accordance with California Environmental Quality Act (CEQA) requirements. The City of Farmersville has adopted the “County of Tulare SB 743 Guidelines”, dated June 8, 2020, which contains recommendations regarding VMT assessment, significance thresholds and mitigation measures.

Baseline VMT was determined utilizing data from the California Statewide Travel Demand Model (CSTDm). The proposed residential Project is located in Traffic Analysis Zone (TAZ) 2757, which has an average VMT/capita of 11.27 miles. The proposed residential Project is considered a typical project within the TAZ and therefore the Project would be expected to have the same VMT per capita. There are no special considerations with the Project to assume the Project would produce a VMT/capita lower than the average for the TAZ. The threshold of significance for residential project VMT/capita is if the Project VMT is below the average in the TAZ where the Project is located. Since VMT/capita is assumed to be



equal to the average for the aforementioned zone, it is anticipated that the proposed Project will have a significant transportation impact prior to mitigation.

The Tulare County guidelines include detailed instructions for mitigation if a project has significant impacts. The guidelines state “The preferred method of VMT mitigation in Tulare County is for project applicants to provide transportation improvements that facilitate travel by walking, bicycling, or transit.” In accordance with these guidelines, a survey was conducted within a half mile of the Project to determine any pedestrian, bicycle or transit facilities deficiencies exist. After review, ADA compliant wheelchair ramps are proposed to be constructed.

The total project cost for addition of ADA compliant wheelchair ramps is estimated at approximately \$30,000 with a 20% contingency. The guidelines include a minimum cost for mitigation of \$20 per daily trip generated by the Project or 0.5% of the total construction cost of the Project (not including land acquisition). As shown in Table 19, the Project is anticipated to generate 1,474 daily trips, which equates to a target value of improvements of \$29,480.

Pursuant to the guidelines, if a Project provides mitigation which meets the minimum threshold listed above, the Project can presume a 1% reduction in VMT. The assumed VMT/capita reduction is 1% of 11.27 or 0.11. The resulting VMT/capita after mitigation is 11.16 which is below the average VMT/capita in the TAZ which the Project is located. After mitigation, the Project will have a *less than significant impact* resulting from VMT.

### **Mitigation Measures:**

#### **TRA-2:**

The applicant shall install ADA compliant wheelchair ramps at the following locations (as shown on Figure 5):

- Costner Street & Steven Avenue (2 ramps)
- Virginia Avenue & Ash Street (4 ramps)
- June Avenue & Ash Street (2 ramps)
- Steven Avenue & Ash Street (2 ramps)

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

**Less Than Significant Impact.** The proposed Project has been designed for ease of access, adequate circulation/movement, and is typical of residential developments in the City of Farmersville. On-site circulation patterns do not involve high speeds, sharp curves or dangerous intersections. Although there will be an increase in the volume of vehicles accessing the site and surrounding areas, the proposed Project will not present a substantial increase in hazards. Any impacts are considered *less than significant*.

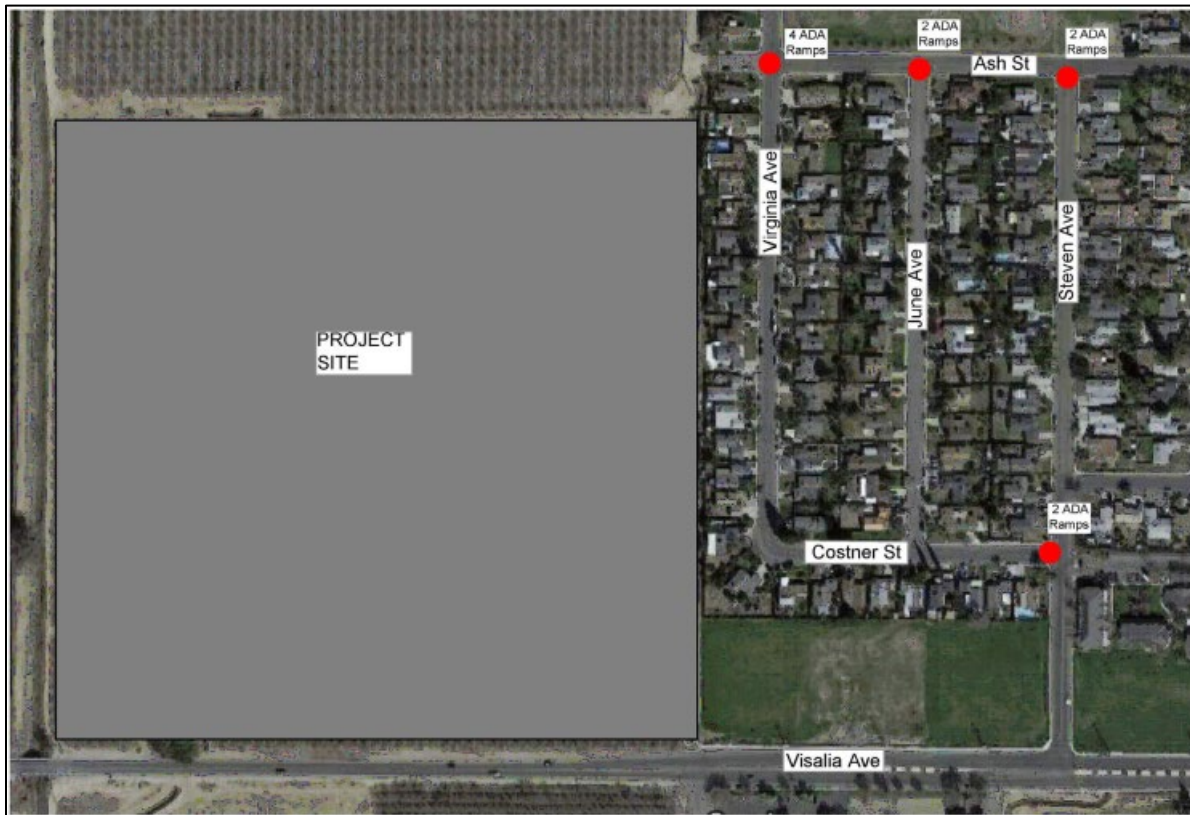
**Mitigation Measures:** None are required.

d. Result in inadequate emergency access?

**Less Than Significant Impact.** The proposed Project does not involve a change to any emergency response plan. Access points to the Project is along Visalia Road and the site will remain accessible to emergency vehicles of all sizes. As such, potential impacts are *less than significant*.

**Mitigation Measures:** None are required.

**Figure 5**  
**VMT Mitigation**



XVIII. TRIBAL CULTURAL RESOURCES

**Would the project:**

	Less than Significant			
Potentially Significant Impact	With Mitigation Incorporation	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 a 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 the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## RESPONSES

a-i, a-ii. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of the 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 with Mitigation.** A Tribal Cultural Resource (TCR) is defined under Public Resources Code section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included and that is listed or eligible for inclusion in the California Register of Historic Resources or in a local register of historical resources, or if the City of Farmersville, acting as the Lead Agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. As discussed above, under Section V, Cultural Resources, criteria (b) and (d), no known archeological resources, ethnographic sites or Native American remains are located on the proposed Project site. As discussed under criterion (b) implementation of Mitigation Measure CUL-1 would reduce impacts to unknown archaeological deposits, including TCRs, to a less than significant level. As discussed under criterion (d), compliance with California Health and Safety Code Section 7050.5 would reduce the likelihood of disturbing or discovering human remains, including those of Native Americans.

The California Native American Tribes were contacted pursuant to AB 52 (Public Resources Code Section 21080.3.1, et seq.) and SB 18 on behalf of the City of Farmersville on May 30, 2023.

- Big Sandy Rancheria of Western Mono Indians
- Santa Rosa Indian Community of the Santa Rosa Rancheria
- Tule River Indian Tribe
- Wuksache Indian Tribe/Eshom Valley band
- Tubatulabals of Kern Valley
- North Fork Mono Tribe
- Big Sandy Rancheria of Western Mono Indians
- Kern Valley Indian Community

Tribes were provided 90 days, to request consultation pursuant to those statutes. No comments were received. Implementation of CUL-1 will ensure that impacts to potential tribal cultural resources will remain *less than significant*.

**Mitigation Measures:**

See CUL-1.

XIX. UTILITIES AND SERVICE SYSTEMS

**Would the project:**

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

## RESPONSES

- 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?

**Less Than Significant Impact.** Wastewater service, water, electric power, natural gas and telecommunications facilities would all provide service to the proposed Project from their respective existing facilities and as such, would not be required to construct new or expanded facilities. The Project will have a *less than significant impact* to this analysis area.

**Mitigation Measures:** None are required.

- b. 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.** As discussed in Impact X(b), the proposed Project will increase demands on the Farmersville water production and distribution area. The City's water system consists of a series of wells, pump stations, treatment facilities and distribution lines. The system draws from the groundwater system underlying Farmersville and the Central Valley. While groundwater supplies can accommodate multiple dry years, the City of Farmersville, Tulare County, and nearby cities are engaging in groundwater management activities to monitor and enhance recharge capabilities to accommodate future demands. The City will have sufficient supply to serve the proposed Project. As such, the proposed Project will have a *less than significant impact* to this impact area.

**Mitigation Measures:** None are required.

- 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?

**Less Than Significant Impact.** The Project will result in wastewater from residential units that will be discharged into the City's existing wastewater treatment system. The wastewater will be typical of other urban/residential developments consisting of bathrooms, kitchen drains and other similar features. The Project will not discharge any unusual or atypical wastewater that would violate the City's waste discharge requirements. The City of Farmersville Public Works Department has reviewed the Project and

determined that it can accommodate the wastewater generated from the project. Therefore, the impact of the Project on wastewater treatment is *less than significant*.

**Mitigation Measures:** None are required.

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?

**Less than Significant Impact.** Disposal services in the City are provided by a private contractor, Mid Valley Disposal. Solid waste is usually hauled to the Visalia Landfill, north of Visalia on Road 80. The State of California requires that all cities and counties reduce the amount of waste going to landfills and the City is meeting its recycling requirements. Mid Valley Disposal has a program of recycling pick-ups in Farmersville; materials separated for recycling include paper, glass, metals and plastics to provide a diversion of portions of the waste stream resulting in a reduction of the solid waste stream going to landfills and similar disposal locations. The site has been designated for residential uses by the General Plan and as such, the demand for City infrastructure, such as disposal services, has been accounted for in City planning documents. Impacts to this resource area are *less than significant*.

**Mitigation Measures:** None are required.

e. Comply with federal, state, and local statutes and regulations related to solid waste?

**Less than Significant Impact.** See Response d, above. The proposed Project would be required to comply with all federal, State, and local regulations related to solid waste. Furthermore, the proposed Project would be required to comply with all standards related to solid waste diversion, reduction, and recycling during project construction and operation. As such, any impacts would be *less than significant*.

**Mitigation Measures:** None are required.



XX. 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 Incorporation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

RESPONSES

- a. Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

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

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

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

**Mitigation Measures:** None are required.

**XXI. MANDATORY FINDINGS OF SIGNIFICANCE**

**Would the project:**

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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a. Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**RESPONSES**

a. Does the project have the potential to 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, reduce the number or restrict

the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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

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

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

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

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

## LIST OF PREPARERS

### **Crawford & Bowen Planning, Inc., *Initial Study/MND***

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### **Technical Studies Prepared by:**

- Air Quality, Health Risk Analysis, Greenhouse Gas, and Energy Technical Memorandum - Johnson Johnson and Miller Air Quality Consulting Services
- Phase I Cultural Resource Survey for Cameron Creek Residential Project – Hudlow Cultural Resource Associates
- Traffic Study – Ruetters & Schuler Civil Engineers

## Persons and Agencies Consulted

### **City of Farmersville**

- Karl Schoettler, Contract City Planner

### **California Historic Resources Information System**

- Celeste Thomson, Coordinator

Appendix A

Air Quality, GHG & Energy Technical Memo

**Cameron Creek Residential Project—Farmersville  
Air Quality, Health Risk, Greenhouse Gas, and Energy Technical Memorandum**

To:	Emily Bowen, LEED AP, Principal Environmental Planner Crawford & Bowen Planning, Inc. 113 N. Church Street, Suite 310 Visalia, CA 93291 emily@candbplanning.com	Prepared By:	Johnson Johnson and Miller Air Quality Consulting Services Contact: Richard Miller, Air Quality and Climate Change Specialist rmiller.jjm.environmental@gmail.com
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**Cameron Creek Residential Project—Farmersville**

**Report Date: June 20, 2023**

**Subject: Air Quality, Health Risk, Greenhouse Gas, and Energy Technical Memorandum**

This Air Quality, Health Risk, Greenhouse Gas, and Energy Technical Memorandum was prepared to evaluate whether the estimated criteria air pollutant, ozone precursor, toxic air contaminant (TAC), and/or greenhouse gas (GHG) emissions generated from construction and/or operation of the Cameron Creek Residential Project (proposed project or project) would cause significant impacts to air quality, GHG, or energy resources. The methodology follows the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD) for the quantification of emissions and evaluation of potential impacts to air resources.<sup>1</sup> The GHG Analysis references the SJVAPCD's Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under the California Environmental Quality Act (CEQA).<sup>2</sup>

**Project Location and Description**

Smee Homes is proposing development of the Cameron Creek Residential Project in western Farmersville, northwest of the intersection of Visalia Road and South Virginia Avenue. Project development includes 151 single-family residential on an approximately 36.51-acre project site (35.81 net acres). Entitlements to accommodate the Cameron Creek Residential Project include:

- General Plan Land Use Amendment
- Zone Change
- Condition Use Permit (CUP) for planned unit development status
- Tentative Subdivision Map

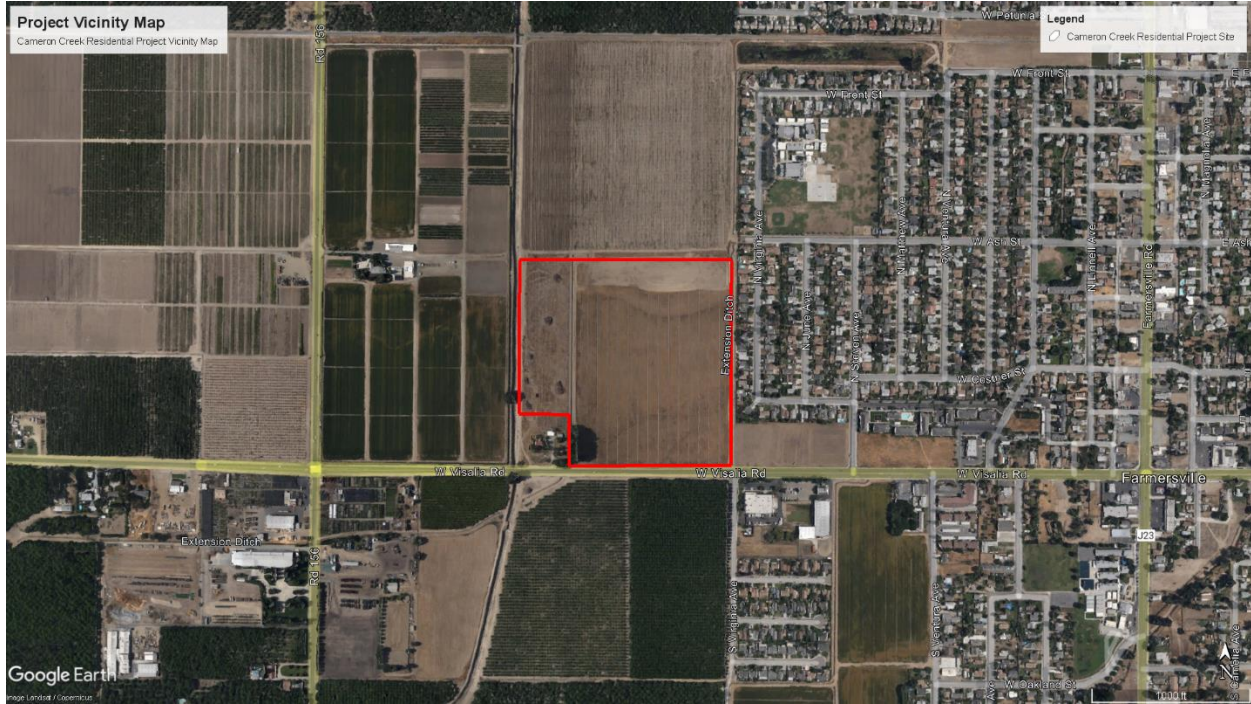
An aerial view of the project site is shown in Figure 1 and is included as part of Attachment A.

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<sup>1</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed June 16, 2023.

<sup>2</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17. Website: <https://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf>. Accessed June 16, 2023.

**Cameron Creek Residential Project—Farmersville**  
**Air Quality, Health Risk, Greenhouse Gas, and Energy Technical Memorandum**



**Figure 1 – Cameron Creek Residential Project—Vicinity Map (Aerial View)**



## Summary of Analysis Results

The following is a summary of the analysis results. As shown below, the proposed project would result in less than impacts to air quality, GHG, and energy resources. Mitigation is required during the construction period to reduce Impact AIR-C.

- Impact AIR-A:** The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. **Less than significant impact.**
- Impact AIR-B:** The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)? **Less than significant impact.**
- Impact AIR-C:** The proposed project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact with incorporation of mitigation.**
- Impact AIR-D:** The proposed project would not create objectionable odors affecting a substantial number of people. **Less than significant impact.**
- Impact GHG-A:** The proposed project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**
- Impact GHG-B:** The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. **Less than significant impact.**
- Impact Energy-A:** The proposed project would not 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.**
- Impact Energy-B:** The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Less than significant impact.**

## Mitigation Measures

### Air Quality Mitigation Measures

MM AIR-C1 is required to reduce the project's potential impacts during construction to less than significant (see Impact AIR-C).

- MM AIR-C1** Before a construction permit is issued for the proposed project, the project applicant, project sponsor, or construction contractor shall submit documentation demonstrating reasonably detailed compliance with one of the following requirements to the City of Farmersville:
- **Option 1)** Where portable diesel engines are used during construction, all off-road equipment with engines greater than 50 horsepower shall have engines that meet or

exceed either United States Environmental Protection Agency (EPA) or California Air Resources Board (CARB) Tier 3 off-road emission standards except as otherwise specified herein. If engines that comply with Tier 3, Tier 4 Interim, or Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 2) that is commercially available. For purposes of this project design feature, “commercially available” shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.

- **Option 2)** Prior to the issuance of any demolition, grading, or building permits (whichever occurs earliest), the project applicant and/or construction contractor shall prepare a construction operations plan that, during construction activities, requires all off-road equipment with engines greater than 50 horsepower to meet either the particulate matter emissions standards for Tier 3 engines or be equipped with Level 3 diesel particulate filters. Tier 3 engines shall, at a minimum, meet EPA or CARB particulate matter emissions standards for Tier 3 engines. Alternatively, use of CARB-certified Level 3 diesel particulate filters on off-road equipment with engines greater than 50 horsepower can be used in lieu of Tier 3 engines or in combination with Tier 3 or better engines. The construction contractor shall maintain records documenting its efforts to comply with this requirement, including equipment lists. Off-road equipment descriptions and information shall include, but are not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number. The project applicant and/or construction contractor shall submit the construction operations plan and records of compliance to the City of Farmersville.

#### Greenhouse Gas Emissions Mitigation Measures

No mitigation is required.

#### Energy Mitigation Measures

No mitigation is required.

## Modeling Parameters and Assumptions

The following modeling parameters and assumptions were used to generate criteria air pollutant, GHG, and TAC emissions for the proposed project.

### Air Pollutants and GHGs Assessed

#### Criteria Pollutants Assessed

The following criteria air pollutants were assessed in this analysis: reactive organic gases (ROG),<sup>3</sup> oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). Note that the proposed project would emit ozone precursors ROG and NO<sub>x</sub>. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

General descriptions and most relevant effects from pollutant exposure of the criteria pollutants of concern are listed below.

**Table 1: Descriptions of Criteria Pollutants of Concern**

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), nitrous oxides (NO <sub>x</sub> ), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO <sub>x</sub> ) are mobile sources (on-road and off-road vehicle exhaust).	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
Particulate matter (PM <sub>10</sub> ) Particulate matter (PM <sub>2.5</sub> )	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM <sub>10</sub> refers to particulate matter that is between 2.5 and 10 microns in diameter, (one micron is one-millionth of a meter). PM <sub>2.5</sub> refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation related sources are from vehicle exhaust and	<ul style="list-style-type: none"> <li>Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias.</li> <li>Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.</li> </ul>

<sup>3</sup> Note: Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. VOC = volatile organic compounds

**Cameron Creek Residential Project—Farmersville  
Air Quality, Health Risk, Greenhouse Gas, and Energy Technical Memorandum**

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
		road dust. Secondary particles form from reactions in the atmosphere.	
Nitrogen dioxide (NO <sub>2</sub> )	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO <sub>x</sub> (NO, NO <sub>2</sub> , NO <sub>3</sub> , N <sub>2</sub> O, N <sub>2</sub> O <sub>3</sub> , N <sub>2</sub> O <sub>4</sub> , and N <sub>2</sub> O <sub>5</sub> ). NO <sub>x</sub> is a precursor to ozone, PM <sub>10</sub> , and PM <sub>2.5</sub> formation. NO <sub>x</sub> can react with compounds to form nitric acid and related small particles and result in particulate matter (PM) related health effects.	NO <sub>x</sub> is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO <sub>x</sub> emissions. NO <sub>2</sub> concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
Carbon monoxide (CO)	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.
Sulfur dioxide (SO <sub>2</sub> )	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO <sub>x</sub> ) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM <sub>10</sub> .	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Source: U.S. Environmental Protection Agency (EPA). Criteria Air Pollutants. Website: <https://www.epa.gov/criteria-air-pollutants>. Accessed June 13, 2023.

### GHGs Assessed

This analysis was restricted to GHGs identified by AB 32, which include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>). The proposed project would generate a variety of GHGs, including several defined by AB 32 such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O.

Water vapor could be emitted from evaporated water used for landscaping and other uses, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

GHG emissions associated with the proposed project construction as well as future operations were estimated using CO<sub>2</sub> equivalent (CO<sub>2</sub>e) emissions as a proxy for all GHG emissions. In order to obtain the CO<sub>2</sub>e, an individual GHG is multiplied by its Global Warming Potential (GWP). The GWP designates on a pound for pound basis the potency of the specific GHG compared to CO<sub>2</sub>.

### Toxic Air Contaminants Assessed

#### **Toxic Air Contaminants**

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

The California Almanac of Emissions and Air Quality—2009 Edition presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data.<sup>4</sup> The ten TACs are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk.<sup>5</sup> In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

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<sup>4</sup> California Air Resources Board (CARB). 2009. The California Almanac of Emissions and Air Quality—2009 Edition. Website: [https://www.arb.ca.gov/aqd/almanac/almanac09/almanac2009\\_all.pdf](https://www.arb.ca.gov/aqd/almanac/almanac09/almanac2009_all.pdf).

<sup>5</sup> California Air Resources Board (CARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: [www.arb.ca.gov/toxics/dieseltac/factsht1.pdf](http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf).

## **DPM**

For purposes of this study, DPM exhaust emissions are represented as exhaust PM<sub>10</sub>. During project operations, the project would generate primarily passenger vehicle trips from residents and visitors; however, the project would also generate truck trips from deliveries and other services. The main source of DPM from the long-term operations of the proposed project would be from combustion of diesel fuel in diesel-powered engines in on-road trucks. On-site motor vehicle emissions refer to DPM exhaust emissions from the motor vehicle traffic that would travel and idle within the project site each day.

## **Asbestos**

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present.

## **Model Selection**

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors are the emission rate of a pollutant given the activity over time; for example, grams of NO<sub>x</sub> per horsepower-hour. CARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The project is located in the City of Farmersville, within Tulare County and within the San Joaquin Valley Air Basin. The modeling follows SJVAPCD guidance where applicable from its GAMAQI. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2022.1
- Operational emissions: CalEEMod, version 2022.1
- Operational TAC emissions: Emission FACTor (EMFAC) 2021
- Dispersion Model: American Meteorological Society/ Environmental Protection Agency Regulatory Model (AERMOD), version 22112
- Health Risk Metric Calculations: Hot Spots Analysis & Reporting Program 2 (HARP2)

## **Criteria Pollutants and GHG Emissions**

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and

water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions.

CalEEMod is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as preparing CEQA or National Environmental Policy Act documents, conducting pre-project planning, and, verifying compliance with local air quality rules and regulations, etc.

CalEEMod version CalEEMod 2022.1 was used to estimate construction and operational impacts of the proposed project. CalEEMod version 2022.1 was the most recent version of CalEEMod at the time emissions were estimated in June 2023.

## **Assumptions**

### **Construction Modeling Assumptions**

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM<sub>10</sub>) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM<sub>10</sub> and PM<sub>2.5</sub>).

### **Schedule**

CalEEMod includes default equipment lists and construction schedules. Where project-specific information was unknown, CalEEMod default values were used.

Table 2 shows the conceptual construction schedule for the proposed project. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario, since emission factors for construction equipment decrease as the analysis year increases due to improvements in technology and more stringent regulatory requirements. Therefore, construction emission estimates would decrease if the construction schedule moved to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required per CEQA guidelines. The site-specific construction fleet may vary due to specific project needs at the time of construction.

**Table 2: Project Construction Schedule**

Construction Activity	Start Date	End Date	Workdays
<b>Site Work for the Entire Project Site and Paving of Internal Streets</b>			
Site Preparation	10/2/2023	11/10/2023	30
Grading	11/11/2023	2/23/2024	75
Paving	2/24/2024	5/10/2024	55
<b>Home Construction</b>			
Building Construction	11/21/2023	6/30/2026	681
Paving	5/11/2024	7/26/2024	55
Architectural Coating	4/15/2026	6/30/2026	55
Note: The construction schedule utilized in the analysis represents a “worst-case” analysis scenario since emission factors for construction equipment decrease as the analysis year increases due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years. Source: Modeling Assumptions and CalEEMod Output Files (Attachment A).			

**Equipment**

Construction equipment for each construction activity is shown in Table 3. Where the construction schedule was adjusted to match the applicant-provided schedule, construction equipment was increased to retain the CalEEMod-default construction HP-hours.

**Table 3: Project Construction Equipment**

Construction Activity	Equipment Type	Pieces of Equipment	Usage (hours/day)	Horsepower	Load Factor	Fuel Type
<b>Site Work for the Entire Project Site and Paving of Internal Streets</b>						
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	Diesel
	Tractors/Loaders/Backhoes	4	8	84	0.37	Diesel
Grading	Excavators	2	8	36	0.38	Diesel
	Graders	1	8	148	0.41	Diesel
	Rubber Tired Dozers	1	8	367	0.40	Diesel
	Scrapers	2	8	423	0.48	Diesel
	Tractors/Loaders/Backhoes	2	8	84	0.37	Diesel
Paving	Pavers	2	8	81	0.42	Diesel
	Paving Equipment	2	8	89	0.36	Diesel
	Rollers	2	8	36	0.38	Diesel
<b>Home Construction</b>						
Building Construction	Cranes	1	7.7	367	0.29	Diesel
	Forklifts	3	8.8	82	0.20	Diesel
	Generator Sets	1	8.8	14	0.74	Diesel



Construction Activity	Equipment Type	Pieces of Equipment	Usage (hours/day)	Horsepower	Load Factor	Fuel Type
	Tractors/Loaders/Backhoes	3	7.7	84	0.37	Diesel
	Welders	1	8.8	46	0.45	Diesel
Paving	Pavers	2	8	81	0.42	Diesel
	Paving Equipment	2	8	89	0.36	Diesel
	Rollers	2	8	36	0.38	Diesel
Architectural Coating	Air Compressors	1	6	37	0.48	Diesel

Source: Modeling Assumptions and CalEEMod Output Files (Attachment A).

### ***Vehicles Trips***

Table 4 provides a summary of the construction-related vehicle trips. CalEEMod default values were used to estimate the number of construction-related vehicle trips. Additional vendor trips were added to each construction activity phase to account for the delivery of materials.

The fleet mix for worker trips is light-duty passenger vehicles to light-duty trucks. The vendor trips fleet mix is composed of a mixture of medium and heavy-duty diesel trucks. The hauling trips were assumed to be 100 percent heavy-duty diesel truck trips. CalEEMod default trip lengths for a project in Tulare County were used for the construction trips.

**Table 4: Construction Vehicle Trips**

Construction Task	Worker Trips per Day	Vendor Trips per Day	Haul Trips per Day
<b>Site Work for the Entire Project Site and Paving of Internal Streets</b>			
Site Preparation	17.50	2	0
Grading	20	2	8.33
Paving	15	2	0
<b>Home Construction</b>			
Building Construction	54.36	16.14	2
Paving	15	2	2
Architectural Coating	10.87	2	0
Notes: Additional vendor trips were added to each phase to account for delivery of materials. Source: Modeling Assumptions and CalEEMod Output Files (Attachment A).			

### ***Operational Modeling Assumptions***

Operational emissions are those emissions that would occur during long-term operations of the proposed project.

### ***Motor Vehicles***

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the proposed project site. Project-specific trip rates were used in the analysis, consistent with the project-specific traffic analysis prepared by Ruetters & Schuler Civil Engineers.

**Table 5: Project Trip Generation Calculations used to Estimate Project Emissions**

Land Use (ITE Code)	Variable	Daily Trips (trips per day)
Single-Family Detached Housing (210)	151 Dwelling Units	1,474
Notes: ITE = Institute of Transportation Engineers Source: Project-specific traffic analysis prepared by Ruettggers & Schuler Civil Engineers (see Attachment A).		

*Vehicle Fleet Mix*

Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips take a slightly different path than a primary trip. The CalEEMod default rates for percentages of primary, diverted, and pass-by trips were used for the passenger vehicle run.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the proposed project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The vehicle fleet mix was revised to reflect the residential fleet mix approved by SJVAPCD for each year analyzed.

**Area Sources**

*Consumer Products*

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings. CalEEMod includes default consumer product use rates. The default emission factors developed for CalEEMod were used for consumer products.

*Architectural Coatings (Painting)*

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Effective January 1, 2022, nonflat gloss and semigloss paints are also required to meet the 50 g/l standard, providing lower VOC emissions for buildings constructed after that date. Therefore, the analysis uses the 50 g/l emission factor for the analysis.

*Landscaping Emissions*

CalEEMod estimates days for which landscaping equipment would be used to estimate potential emissions for the proposed project.

**Indirect Emissions**

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where actual emissions are generated. For example, electricity would be consumed at the proposed project site; however, emissions associated with producing that electricity are generated off-site at a power plant.

Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

#### *Energy Use*

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis.

The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24.

The emissions associated with the building electricity and natural gas usage (non-hearth) were estimated based on the land use type and size. Values for a project served by Eastside Power Authority and Southern California Gas were used in the analysis.

The Renewable Electricity Standards took effect in 2020. The Renewable Electricity Standard requires that electricity providers include a minimum of 33 percent renewable energy in their portfolios by the year 2020. The utilities in California will be required to increase the use of renewable energy sources to 60 percent by 2030.

#### *Other Indirect Emissions (Water Use, Wastewater Use, and Solid Waste)*

CalEEMod includes calculations for indirect GHG emissions for electricity consumption, water consumption, and solid waste disposal. For water consumption, CalEEMod calculates embedded energy (e.g., treatment, conveyance, distribution) associated with providing each gallon of potable water to the project. For solid waste disposal, GHG emissions are associated with the disposal of solid waste generated by the proposed project into landfills. CalEEMod default data were used for inputs associated with solid waste.

### **Offroad Equipment**

#### *Stationary Sources*

No stationary sources are included as part of the residential proposed project.

#### **Vegetation**

There is currently limited carbon sequestration occurring on-site in the form of existing agricultural uses. The proposed project would meet any requirements set forth by the City of Farmersville in regard to landscaping/open space that may result in the inclusion of vegetation. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the proposed project would be balanced; therefore, emissions due to carbon sequestration were not included.

#### **Refrigerants**

Buildings requiring cold storage are not included as part of the proposed project. CalEEMod default values were applied to the proposed single-family homes associated with the residential project.

#### Health Risk Assessment Assumptions

A Health Risk Assessment (HRA) was completed to evaluate potential health risks associated with the generation of TACs during construction activities associated with the proposed project. Assumptions used in the HRA are summarized below, while complete calculations parameters are provided as part of Attachment B.

### ***Model Selection and Parameters***

An air dispersion model is a mathematical formulation used to estimate the air quality impacts at specific locations (receptors) surrounding a source of emissions given the rate of emissions and prevailing meteorological conditions. The air dispersion model applied in this assessment was the United States Environmental Protection Agency (EPA) AERMOD (version 22112) air dispersion model. Specifically, AERMOD was used to estimate levels of air emissions at existing sensitive receptor locations from potential sources of project-generated TACs. The use of AERMOD provides a refined methodology for estimating construction impacts by utilizing long-term, measured representative meteorological data for the project site and a representative operational schedule.

The modeling analysis also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. Direction-dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each source location. Terrain elevations were obtained for the project site using the AERMAP model, the AERMOD terrain data pre-processor. Elevation data for the area were obtained and included in the model runs to account for complex terrain. The air dispersion model assessment used meteorological data from the Visalia Station (Station #93144). The meteorological data used was preprocessed for use with AERMOD by the SJVAPCD and included data for the years 2007 to 2010; all years were used in the assessment. All receptors were placed within the breathing zone at 1.2 meters above ground level.

Detailed parameters and complete calculations are contained in Attachment B. Attachment B also includes a representation of the operational DPM modeling parameters, including modeled on-site vehicle travel and locations of sensitive receptors within approximately ¼-mile (1,320 feet) of the project boundary.

### ***Cancer Risk***

The model was run to obtain annual average concentration in micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ] at sensitive receptor locations. Receptor were placed at sensitive receptors locations with ¼-mile (1,32 feet) of the project site and in the closest receptor locations in each direction from the project site. Consistent with SJVAPCD guidance, a health risk computation was performed to determine the risk of developing an excess cancer risk calculated on a 70-year exposure scenario. Cancer risk and non-cancer hazard calculations were completed using HARP2. The chronic and carcinogenic health risk calculations are based on the standardized equations contained in the U.S. EPA Human Health Evaluation Manual (1991) and OEHHA's 2015 Guidance Manual.<sup>6,7</sup>

Based on the OEHHA methodology, the residential inhalation cancer risk from the annual average DPM concentrations is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor (ASF), the frequency of time spent at home (for residents only), and the exposure duration divided by averaging time, to yield the excess cancer risk. These factors are discussed in more detail below. Cancer risk must be separately calculated for specified age groups, because of age differences in sensitivity to carcinogens and age differences in intake rates (per kg body weight). Separate risk estimates for these age groups provide a health-protective estimate of cancer risk by accounting for greater susceptibility in early life, including both age-related sensitivity and amount of exposure.

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<sup>6</sup> U.S. Environmental Protection Agency (EPA). 1991. Human Health Evaluation Manual. Website: <https://www.epa.gov/sites/default/files/2015-11/documents/defaultExposureParams.pdf>. Accessed June 13, 2023.

<sup>7</sup> California Office of Environmental Health Hazards Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February. Website: <http://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>. Accessed June 13, 2023.

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Exposure through inhalation (Dose-air) is a function the breathing rate, the exposure frequency, and the concentration of a substance in the air. For residential exposure, the breathing rates are determined for specific age groups, so Dose-air is calculated for each of these age groups, 3<sup>rd</sup> trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\text{Dose-air} = (C_{\text{air}} * \{BR/BW\} * A * EF * 10^{-6})$$

Where:

Dose-air	=	dose through inhalation (mg/kg/day)
C <sub>air</sub>	=	air concentration (µg/m <sup>3</sup> ) from air dispersion model
{BR/BW}	=	daily breathing rate normalized to body weight (L/kg body weight – day) (361 L/kg BW-day for 3 <sup>rd</sup> Trimester, 1,090 L/kg BW-day for 0<2 years, 861 L/kg BW-day for 2<9 years, 745 L/kg BW-day for 2<16 years, 335 L/kg BW-day for 16<30 years, and 290 L/kg BW-day 30<70 years)
A	=	Inhalation absorption factor (unitless [1])
EF	=	exposure frequency (unitless), days/365 days (0.96 [approximately 350 days per year])
10 <sup>-6</sup>	=	conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to take into account the increased sensitivity to carcinogens during early-in-life exposure. In the absence of chemical-specific data, OEHHA recommends a default ASF of 10 for the third trimester to age 2 years, an ASF of 3 for ages 2 through 15 years to account for potential increased sensitivity to carcinogens during childhood and an ASF of 1 for ages 16 through 70 years.

Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to the facility's emissions are not occurring away from home. The following FAH values were used in this assessment:

- From the third trimester to age <2 years: 100 percent (the OEHHA-recommended value is 85 percent of time is spent at home; however, 100 percent was assumed in order to present a conservative analysis and to be consistent with SJVAPCD guidance);
- From age 2 through <16 years: 100 percent (the OEHHA-recommended value is 72 percent of time is spent at home; however, 100 percent was assumed in order to present a conservative analysis and to be consistent with SJVAPCD guidance); and
- From age 16 years and greater: 73 percent (the OEHHA-recommended value is 73 percent of time is spent at home; however, 100 percent was assumed in order to present a conservative analysis and to be consistent with SJVAPCD guidance).

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$\text{Risk}_{\text{inh-res}} = (\text{Dose}_{\text{air}} * \text{CPH} * \text{ASF} * \text{ED/AT} * \text{FAH})$$

Where:

Risk <sub>inh-res</sub>	=	residential inhalation cancer risk (potential chances per million)
Dose <sub>air</sub>	=	daily dose through inhalation (mg/kg-day)
CPF	=	inhalation cancer potency factor (mg/kg-day <sup>-1</sup> )
ASF	=	age sensitivity factor for a specified age group (unitless)
ED	=	exposure duration (in years) for a specified age group
AT	=	averaging time of lifetime cancer risk (years)
FAH	=	fraction of time spent at home (unitless)

### **Chronic Non-Cancer Hazard**

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the Reference Exposure Level (REL) for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The following equation was used to determine the non-cancer risk:

$$\text{Hazard Quotient} = C_i / \text{REL}_i$$

Where:

$C_i$	=	Concentration in the air of substance $i$ (annual average concentration in $\mu\text{g}/\text{m}^3$ )
$\text{REL}_i$	=	Chronic noncancer Reference Exposure Level for substance $i$ ( $\mu\text{g}/\text{m}^3$ )

The non-cancer chronic hazard index was calculated in HARP2. The primary source of the emissions responsible for chronic risk are from diesel trucks. DPM does not have an acute risk factor; however, HARP2 was run to obtain the following for each modeled receptor: cancer risk, chronic hazard index, and acute hazard index.

### **Thresholds**

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are also assessed using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during project construction and operation are ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for ROG and NO<sub>x</sub>; SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. The San Joaquin Valley Air Basin (SJVAB) often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, substantial project emissions may contribute to an exceedance for these pollutants.

The SJVAPCD adopted significance thresholds for regional construction-related and operational ROG, NO<sub>x</sub>, PM, CO, and SO<sub>x</sub>, these thresholds are included in Table 6.

**Table 6: SJVAPCD Proposed Project-Level Air Quality CEQA Thresholds of Significance**

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emission (tons/year)
CO	100	100
NO <sub>x</sub>	10	10
ROG	10	10
SO <sub>x</sub>	27	27
PM <sub>10</sub>	15	15
PM <sub>2.5</sub>	15	15

Source: SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed June 16, 2023.

**Table 7: Health Risk Assessment Thresholds**

Health Risk Metric	Applicable Threshold of Significance
Maximum Cancer Risk (Risk per Million)	20
Chronic Non-Cancer Hazard Index	1

Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed June 16, 2023.

Additional thresholds of significance are discussed, where applicable, in the appropriate impact analysis.

## **Fugitive Dust**

### Construction

Fugitive dust would be generated from site grading and other earth-moving activities. Most of this fugitive dust would remain localized and would be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the project site. Therefore, adherence to Regulation VIII would be required during construction of the proposed project. Regulation VIII would require fugitive dust control measures that are consistent with

best management practices (BMPs) established by the SJVAPCD to reduce the proposed project's construction-generated fugitive dust impacts to a less than significant level.

The SJVAPCD (SJVAPCD or District) adopted Regulation VIII in 1993 and its most recent amendments became effective on October 1, 2004. This is a basic summary of the regulation's requirements as they apply to construction sites. These regulations affect all workers at a regulated construction site, including everyone from the landowner to the subcontractors. Violations of Regulation VIII are subject to enforcement action including fines.<sup>8</sup>

**Visible Dust Emissions** may not exceed 20 percent opacity during periods when soil is being disturbed by equipment or by wind at any time. Visible Dust Emissions opacity of 20 percent means dust that would obstruct an observer's view of an object by 20 percent. District inspectors are state certified to evaluate visible emissions. Dust control may be achieved by applying water before/during earthwork and onto unpaved traffic areas, phasing work to limit dust, and setting up wind fences to limit windblown dust.

**Soil Stabilization** is required at regulated construction sites after normal working hours and on weekends and holidays. This requirement also applies to inactive construction areas such as phased projects where disturbed land is left unattended. Applying water to form a visible crust on the soil and restricting vehicle access are often effective for short-term stabilization of disturbed surface areas. Long-term methods including applying dust suppressants and establishing vegetative cover.

**Carryout and Trackout** occur when materials from emptied or loaded vehicles falls onto a paved surface or shoulder of a public road or when materials adhere to vehicle tires and are deposited onto a paved surface or shoulder of a public road. Should either occur, the material must be cleaned up at least daily, and immediately if it extends more than 50 feet from the exit point onto a paved road. The appropriate clean-up methods require the complete removal and cleanup of mud and dirt from the paved surface and shoulder. Using a blower device or dry sweeping with any mechanical device other than a PM<sub>10</sub>-efficient street sweeper is a violation. Larger construction sites, or sites with a high amount of traffic on one or more days, must prevent carryout and trackout from occurring by installing gravel pads, grizzlies, wheel washers, paved interior roads, or a combination thereof at each exit point from the site. In many cases, cleaning up trackout with water is also prohibited as it may lead to plugged storm drains. Prevention is the best method.

**Unpaved Access and Haul Roads**, as well as unpaved vehicle and equipment traffic areas at construction sites must have dust control. Speed limit signs limiting vehicle speed to 15 mph or less at construction sites must be posted every 500 feet on uncontrolled and unpaved roads.

**Storage Piles and Bulk Materials** have handling, storage, and transportation requirements that include applying water when handling materials, wetting or covering stored materials, and installing wind barriers to limit visible dust emissions. Also, limiting vehicle speeds, loading haul trucks with a freeboard of six inches or greater along with applying water to the top of the load, and covering the cargo compartments are effective measures for reducing visible dust emissions and carryout from vehicles transporting bulk materials.

**Dust Control Plans** identify the dust sources and describe the dust control measures that will be implemented before, during, and after any dust generating activity for the duration of the project. Owners or operators are required to submit plans to the SJVAPCD at least 30 days prior to commencing the work for the following:

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<sup>8</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2007. Compliance Assistance Bulletin. Website: <http://www.valleyair.org/busind/comply/pm10/forms/RegVIIIICAB.pdf>. Accessed June 13, 2023.



- Residential developments of ten or more acres of disturbed surface area.
- Non-residential developments of five or more acres of disturbed surface area.
- The relocation of more than 2,500 cubic yards per day of materials on at least three days.

Operations may not commence until the SJVAPCD has approved the Dust Control Plan. A copy of the plan must be on site and available to workers and District employees. All work on the site is subject to the requirements of the approved dust control plan. A failure to abide by the plan by anyone on site may be subject to enforcement action. Owners or operators of construction projects that are at least one acre in size and where a Dust Control Plan is not required, must provide written notification to the SJVAPCD at least 48 hours in advance of any earthmoving activity.

**Record Keeping** is required to document compliance with the rules and must be kept for each day any dust control measure is used. The SJVAPCD has developed record forms for water application, street sweeping, and “permanent” controls such as applying long term dust palliatives, vegetation, ground cover materials, paving, or other durable materials. Records must be kept for one year after the end of dust generating activities (Title V sources must keep records for five years).

**Exemptions** exist for several activities. Those occurring above 3,000 feet in elevation are exempt from all Regulation VIII requirements. Further, Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities exempts the following construction and earthmoving activities:

- Blasting activities permitted by California Division of Industrial Safety.
- Maintenance or remodeling of existing buildings provided the addition is less than 50% of the size of the existing building or less than 10,000 square feet (due to asbestos concerns, contact the SJVAPCD at least two weeks ahead of time).
- Additions to single family dwellings.
- The disking of weeds and vegetation for fire prevention on sites smaller than ½ acre.
- Spreading of daily landfill cover to preserve public health and safety and to comply with California Integrated Waste Management Board requirements.

**Nuisances** are prohibited at all times because District Rule 4102 – Nuisance applies to all construction sources of fugitive dust, whether or not they are exempt from Regulation VIII. It is important to monitor dust-generating activities and implement appropriate dust control measures to limit the public’s exposure to fugitive dust.

## Addressing Air Quality CEQA Impact Questions

**Table 8: Summary of Air Quality Impact Analysis**

<b>Air Quality</b> <i>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.</i>	
<b>Would the project:</b>	<b>Significance Finding</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?	Less than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than Significant Impact with Incorporation of Mitigation
d) Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?	Less than Significant Impact

### Air Quality Mitigation Measures

MM AIR-C1 is required to reduce the project’s potential impacts during construction to less than significant (see Impact AIR-C).

**MM AIR-C1** Before a construction permit is issued for the proposed project, the project applicant, project sponsor, or construction contractor shall submit documentation demonstrating reasonably detailed compliance with one of the following requirements to the City of Farmersville:

- **Option 1)** Where portable diesel engines are used during construction, all off-road equipment with engines greater than 50 horsepower shall have engines that meet or exceed either United States Environmental Protection Agency (EPA) or California Air Resources Board (CARB) Tier 3 off-road emission standards except as otherwise specified herein. If engines that comply with Tier 3, Tier 4 Interim, or Tier 4 Final off-road emission standards are not commercially available, then the construction contractor shall use the next cleanest piece of off-road equipment (e.g., Tier 2) that is commercially available. For purposes of this project design feature, “commercially available” shall mean the equipment at issue is available taking into consideration factors such as (i) critical-path timing of construction; and (ii) geographic proximity to the project site of equipment. If the relevant equipment is determined by the project applicant to not be commercially available, the contractor can confirm this conclusion by providing letters from at least two rental companies for each piece of off-road equipment that is at issue.
- **Option 2)** Prior to the issuance of any demolition, grading, or building permits (whichever occurs earliest), the project applicant and/or construction contractor shall prepare a construction operations plan that, during construction activities, requires all off-road equipment with engines greater than 50 horsepower to meet either the particulate matter emissions standards for Tier 3 engines or be equipped with Level 3 diesel particulate filters. Tier 3 engines shall, at a minimum, meet EPA or CARB particulate matter emissions standards for Tier 3 engines. Alternatively, use of CARB-

certified Level 3 diesel particulate filters on off-road equipment with engines greater than 50 horsepower can be used in lieu of Tier 3 engines or in combination with Tier 3 or better engines. The construction contractor shall maintain records documenting its efforts to comply with this requirement, including equipment lists. Off-road equipment descriptions and information shall include, but are not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number. The project applicant and/or construction contractor shall submit the construction operations plan and records of compliance to the City of Farmersville.

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

**Less than Significant Impact.**

Air Quality Plans (AQPs) are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. The proposed project site is located within the jurisdictional boundaries of the SJVAPCD. To show attainment of the standards, the SJVAPCD analyzes the growth projections in the Valley, contributing factors in air pollutant emissions and formations, and existing and adopted emissions controls. The SJVAPCD then formulates a control strategy to reach attainment that includes both State and SJVAPCD regulations and other local programs and measures. For projects that include stationary sources of emissions, the SJVAPCD relies on project compliance with Rule 2201—New and Modified Stationary Source Review to ensure that growth in stationary source emissions would not interfere with the applicable AQP. Projects exceeding the offset thresholds included in the rule are required to purchase offsets in the form of Emission Reduction Credits (ERCs).

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable AQP. An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project comply with applicable control measures in the AQPs?

The use of the criteria listed above is a standard approach for CEQA analysis of projects in the SJVAPCD's jurisdiction, as well as within other air districts, for the following reasons:

- Significant contribution to existing or new exceedances of the air quality standards would be inconsistent with the goal of attaining the air quality standards.
- AQP emissions inventories and attainment modeling are based on growth assumptions for the area within the air district's jurisdiction.

- AQPs rely on a set of air district-initiated control measures as well as implementation of federal and state measures to reduce emissions within their jurisdictions, with the goal of attaining the air quality standards.

### Contribution to Air Quality Violations

As discussed in Impact AIR-B below, emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> associated with the proposed project would not exceed the SJVAPCD's significance thresholds during the construction phase (see Table 9). Similarly, emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>2.5</sub> or PM<sub>10</sub> during operations would not exceed any applicable threshold of significance (see Table 10). Therefore, regarding this criterion, the project would be considered less than significant.

### Air Quality Plan Control Measures

The AQP contains a number of control measures that are enforceable requirements through the adoption of rules and regulations. The following rules and regulations are relevant to the project:

**Rule 2010—Permits Required.** Rule 2010 requires operators of emission sources to obtain an authority to construct and permit to operate from the Valley Air District.

**Rule 2201—New and Modified Stationary Source Review Rule.** The review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards.

**Rule 4201—Particulate Matter Concentration.** This rule shall apply to any source operation that emits or may emit dust, fumes, or total suspended particulate matter.

**Rule 4309—Boilers, Steam Generators, and Process Heaters.** The purpose of this rule is to limit emissions of oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO) from boilers, steam generators, and process heaters. This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour.

**Rule 4601—Architectural Coatings.** The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

**Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations.** The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider.

**Rule 4702—Internal Combustion Engines.** The purpose of this rule is to limit the emissions of NO<sub>x</sub>, carbon monoxide (CO), VOC, and sulfur oxides (SO<sub>x</sub>) from internal combustion engines. If the project includes emergency generators, the equipment is required to comply with Rule 4702.

**Regulation VIII—Fugitive PM<sub>10</sub> Prohibitions.** This regulation is a control measure that is one main strategies from the 2006 PM<sub>10</sub> for reducing the PM<sub>10</sub> emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to

comply with Regulation VIII. Rule 8021 regulates construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

**Rule 9410—Employer Based Trip Reduction.** The purpose of this rule is reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NO<sub>x</sub>, VOC and PM. The rule would require larger employers (those with 100 or more eligible employees) to establish employee trip reduction programs to reduce VMT, reducing emissions associated with work commutes. The rule uses a menu-based Employer Trip Reduction Implementation Plan and periodic reporting requirements to evaluate performance on a phased-in compliance schedule.

**Rule 9510—Indirect Source Review.** This rule reduces the impact of NO<sub>x</sub> and PM<sub>10</sub> emissions from growth within the SJVAB. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two.

### Conclusion

The project would comply with all applicable CARB and SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan with regards to this criterion.

The project's regional operational emissions would not exceed any applicable SJVAPCD prior to the incorporation of mitigation measures (see Impact AIR-B). Therefore, the project would be considered consistent with the existing AQPs.

Based on the findings above, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be less than significant.

### **b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?**

#### **Less than Significant Impact.**

To result in a less than significant impact, emissions of nonattainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD's in its GAMAQI. The SJVAB is in nonattainment for ozone, PM<sub>10</sub> (State only), and PM<sub>2.5</sub>. Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. As such, the primary pollutants of concern during project construction and operation are ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Since the SJVAB is nonattainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NO<sub>x</sub>, ROG/VOC, PM<sub>10</sub>, or PM<sub>2.5</sub> are applied as cumulative contribution thresholds. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO<sub>x</sub>, ROG, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Air pollutant emissions have both regional and localized effects. The project's regional emissions are compared to the applicable SJVAPCD regional thresholds below to address if the project would result in a cumulatively considerable net increase of any criteria pollutant (including ozone precursors) of concern.

## Criteria Pollutant Emission Estimates

### Construction Emissions (Regional)

Construction emissions associated with the development envisioned for the proposed project are shown in Table 9 prior to the incorporation of any mitigation.

**Table 9: Summary of Construction-Generated Emissions of Criteria Air Pollutants – Unmitigated**

Emissions Source	Emissions (Tons/Year)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Work (2023)	0.13	1.30	1.14	0.00	0.29	0.14
Site Work (2024)	0.14	0.90	0.90	0.00	0.18	0.07
Home Construction (2023)	0.02	0.21	0.25	0.00	0.04	0.01
Home Construction (2024)	0.24	1.96	2.51	0.00	0.36	0.11
Home Construction (2025)	0.20	1.62	2.18	0.00	0.30	0.09
Home Construction (2026)	1.02	0.78	1.11	0.00	0.18	0.05
<b>Total Construction Duration</b>						
<b>Project Total</b>	<b>1.75</b>	<b>6.77</b>	<b>8.09</b>	<b>0.00</b>	<b>1.35</b>	<b>0.47</b>
<b>Significance Thresholds</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>27</b>	<b>15</b>	<b>15</b>
<b>Exceed Significance Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Notes: PM <sub>10</sub> and PM <sub>2.5</sub> emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM <sub>10</sub> Prohibitions. Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A). Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a> . Accessed June 16, 2023.						

As shown in Table 9 above, construction activities associated with the proposed project are estimated below the significance thresholds. Therefore, regional and cumulative impacts associated with construction of the proposed project are less than significant.

### Operational Emissions (Regional)

Operational emissions occur over the lifetime of the project. The SJVAPCD considers permitted and non-permitted emission sources separately when making significance determinations. In addition, the annual operational emissions are also considered separately from construction emissions. Operational emissions associated with the proposed project are shown in Table 10. Operational emissions were estimated using a full buildout scenario in the earliest year of operations (2024), which provides a conservative estimate of emissions and resulting potential impacts.

**Table 10: Summary of Operational Emissions of Criteria Air Pollutants – Unmitigated**

Source	Emissions (tons/year)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	1.32	0.06	0.79	< 0.01	< 0.01	< 0.01
Energy	0.01	0.25	0.11	< 0.01	0.02	0.02
Mobile (Automobiles)	1.05	1.23	10.02	0.02	1.91	0.49
<b>Annual Total (2024)</b>	<b>2.38</b>	<b>1.54</b>	<b>10.92</b>	<b>0.02</b>	<b>1.93</b>	<b>0.51</b>
<b>Significance Thresholds</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>27</b>	<b>15</b>	<b>15</b>
<b>Exceed Significance Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Notes: Emissions were quantified using CalEEMod based on project details and earliest operational year for the proposed project. Source: Modeling Assumptions and CalEEMod Output Files (Attachment A).						

As shown in Table 10, operational emissions would not exceed the applicable SJVAPCD thresholds of significance for ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. Therefore, the impact from operations of the project would be less than significant.

Conclusion

As shown in Table 9, the project’s regional emissions would not exceed the applicable regional criteria pollutant emissions quantitative thresholds during project construction. During operations, the project would not exceed the applicable regional criteria pollutant emissions quantitative thresholds (see Table 10). Therefore, the impact would be less than significant.

**c) Expose sensitive receptors to substantial pollutant concentrations?**

**Less than Significant Impact with Incorporation of Mitigation.**

Emissions occurring at or near the project have the potential to create a localized impact that could expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools.

The closest existing sensitive receptors to the project site include residential receptors, the closest of which include existing single-family homes located within approximately 50 feet east of the project boundary. See Attachment B (Construction Health Risk Assessment and Operational Health Risk Screening) for a graphical representation of the sensitive receptor locations within approximately ¼-mile of the project site.

Localized Impacts

Emissions occurring at or near the project have the potential to create a localized impact also referred to as an air pollutant hotspot. Localized emissions are considered significant if when combined with

background emissions, they would result in exceedance of any health-based air quality standard. In locations that already exceed standards for these pollutants, significance is based on a significant impact level (SIL) that represents the amount that is considered a cumulatively considerable contribution to an existing violation of an air quality standard. The pollutants of concern for localized impact in the SJVAB are NO<sub>2</sub>, SO<sub>x</sub>, and CO.

The SJVAPCD has provided guidance for screening localized impacts in the GAMAQI that establishes a screening threshold of 100 pounds per day of any criteria pollutant. If a project exceeds 100 pounds per day of any criteria pollutant, then ambient air quality modeling would be necessary. If the project does not exceed 100 pounds per day of any criteria pollutant, then it can be assumed that it would not cause a violation of an ambient air quality standard.

**Construction: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>x</sub>, and NO<sub>x</sub>**

Local construction impacts would be short-term in nature lasting only during the duration of construction. As shown in Table 11 below, on-site construction emissions would be less than 100 pounds per day for each of the criteria pollutants. To present a conservative estimate, on-site emissions for on-road construction vehicles were included in the localized analysis. Based on the SJVAPCD's guidance, the construction emissions would not cause an ambient air quality standard violation.



**Table 11: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and NO<sub>x</sub> for Construction – Unmitigated**

Emission Source	On-site Emissions (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>2023</b>						
Highest Daily Construction Site Work (2023)	4.03	39.83	35.84	0.06	10.85	5.74
Highest Daily Construction Home Construction (2023)	1.65	13.35	15.68	0.03	2.01	0.70
<i>Highest Combined Construction</i>	<i>5.68</i>	<i>53.18</i>	<i>51.52</i>	<i>0.09</i>	<i>12.86</i>	<i>6.44</i>
<b>2024</b>						
Highest Daily Construction Site Work (2024)	3.61	34.53	30.66	0.06	6.42	2.90
Highest Daily Construction Home Construction (2024)	2.55	20.59	25.60	0.04	3.72	1.15
<i>Highest Combined Construction</i>	<i>6.16</i>	<i>55.12</i>	<i>56.26</i>	<i>0.10</i>	<i>10.14</i>	<i>4.05</i>
<b>2025</b>						
Highest Daily Construction Home Construction (2025)	1.52	11.83	15.38	0.03	1.88	0.58
<b>2026</b>						
Highest Daily Construction Home Construction (2026)	35.12	12.07	16.34	0.03	3.22	0.69
<b>Total Construction Duration</b>						
<b>Highest Daily Maximum</b>	<b>35.12</b>	<b>55.12</b>	<b>56.26</b>	<b>0.10</b>	<b>12.86</b>	<b>6.44</b>
<b>Significance Thresholds</b>	<b>—</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Exceed Significance Thresholds?</b>	<b>—</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Note: Overlap of construction activities is based on the construction schedule shown in Table 2 and Attachment A. Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A). Maximum daily emissions represent the maximum daily emissions between the Summer and Winter scenarios. Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a> . Accessed June 16, 2023.						

**Operation: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>x</sub>, and NO<sub>x</sub>**

Localized impacts could occur in areas with a single large source of emissions such as a power plant or with multiple sources concentrated in a small area such as a distribution center. The maximum daily operational emissions would occur at project buildout, which was assumed to occur in 2024 (the earliest year of operations). Operational emissions include those generated on-site by area sources such as consumer products and landscape maintenance, energy use from natural gas combustion, and motor vehicles operation at the project site. Motor vehicle emissions are estimated for on-site operations using trip lengths for on-site travel and ¼-mile of off-site emissions.

As shown in Table 12 below, operational modeling of on-site emissions for the project indicate that the project would not exceed 100 pounds per day for each of the criteria pollutants. Therefore, based on the SJVAPCD’s guidance, the operational emissions would not cause an ambient air quality standard violation. As such, impacts would be less than significant.

**Table 12: Localized Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and NO<sub>x</sub> for Operations**

Source	On-site Emissions (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	7.66	1.25	9.07	0.01	0.10	0.11
Energy	0.08	1.39	0.59	0.01	0.11	0.11
Mobile (Automobiles)	5.76	2.08	14.66	0.01	0.53	0.14
<b>Total</b>	<b>13.50</b>	<b>4.72</b>	<b>24.32</b>	<b>0.03</b>	<b>0.74</b>	<b>0.36</b>
<b>Significance Thresholds</b>	<b>—</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Exceed Significance Thresholds?</b>	<b>—</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A).

Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed June 16, 2023.

### Toxic Air Contaminants

#### **Construction**

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD’s current threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD’s 2015 GAMAQI does not currently recommend analysis of TAC emissions from project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. In addition, the most intense construction activities of the project’s construction would occur during site preparation and grading phases over a short period. There are no conditions unique to the project site that would require more intense construction activity compared to typical development. Examples of situations that would warrant closer scrutiny may include sites that would require extensive excavation and hauling due to existing site conditions. Building construction typically requires limited amounts of diesel equipment relative to site clearing activities. Nonetheless, a construction HRA was prepared as part of this analysis. In addition, the analysis includes an evaluation of potential health impacts from construction and operations of the project considered together, over a 70-year exposure scenario.

The results of the HRA prepared for project construction for cancer risk and long-term chronic cancer risk are summarized below. Construction emissions were estimated assuming adherence to all applicable rules, regulations, and project design features. The construction emissions were assumed to be distributed over the project area with a working schedule of eight hours per day and five days per week. Emissions were adjusted by a factor of 4.2 to convert for use with a 24-hour-per-day, 365 day-per-year

averaging period. Health risk calculations were completed using HARP2. Detailed parameters and complete calculations are included in Attachment B.

The estimated health and hazard impacts at the Maximally Exposed Receptor (MER) from the project's construction emissions are provided in Table 13.

**Table 13: Summary of the Health Impacts from Unmitigated Construction of the Project**

Exposure Scenario	Maximum Cancer Risk (Risk per Million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index
<b>Risks and Hazards at the MER</b>			
Risks and Hazards at the MER	20.82	0.0112	0.0000
<b>Significance Threshold</b>	<b>20</b>	<b>1</b>	<b>1</b>
<b>Threshold Exceeded in Any Scenario?</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
MER = Maximally Exposed Receptor Cameron Creek Residential Project Unmitigated Construction MER: Receptor #509 (36°17'56.8"N 119°12'56.8"W) Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B).			

As shown in Table 13, estimated health risks from elevated DPM concentrations during construction of the proposed project would exceed the applicable cancer risk significance threshold in at least one scenario. This represents a potentially significant construction TAC exposure impact. Therefore, mitigation is required to reduce the impact during the construction period to below a level of significance.

MM AIR-C1 requires the project applicant, project sponsor, or construction contractor to provide documentation to the City of Farmersville that all off-road diesel-powered construction equipment greater than 50 horsepower meet EPA or CARB Tier 3 Final off-road emissions standards or to use Level 3 filters. Table 14 shows the health risks and non-cancer hazard index for construction with implementation of MM AIR-C1.

**Table 14: Summary of the Health Impacts from Mitigated Construction of the Project**

Exposure Scenario	Maximum Cancer Risk (Risk per Million)	Chronic Non-Cancer Hazard Index	Acute Non-Cancer Hazard Index
<b>Risks and Hazards at the MER—Tier 3 Equipment Scenario</b>			
Risks and Hazards at the MER	18.69	0.0101	0.0000
<b>Risks and Hazards at the MER—Level 3 Filters Scenario</b>			
Risks and Hazards at the MER	5.46	0.0029	0.0000
<b>Highest Risks and Hazards at the MER after Incorporation of MM AIR-C1</b>			
Risks and Hazards at the MER	18.69	0.0101	0.0000
<b>Significance Threshold</b>	<b>20</b>	<b>1</b>	<b>1</b>
<b>Threshold Exceeded in Any Scenario?</b>	<b>No</b>	<b>No</b>	<b>No</b>
MER = Maximally Exposed Receptor Cameron Creek Residential Project Mitigated Construction MER: Receptor #509 (36°17'56.8"N 119°12'56.8"W) Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B).			

As noted in Table 14, calculated health metrics from the proposed project’s construction DPM emissions would not exceed the cancer risk significance threshold or non-cancer hazard index significance threshold at the MEI with incorporation of MM AIR-C1. Therefore, the proposed project would not result in a significant impact on nearby sensitive receptors from TACs during construction.

**Operations**

Unlike warehouses or distribution centers, the daily vehicle trips generated by the proposed residential project would be primarily generated by passenger vehicles. Passenger vehicles typically use gasoline engines rather than the diesel engines that are found in heavy-duty trucks. Gasoline-powered vehicles do emit TACs in the form of toxic organic gases, some of which are carcinogenic. Compared to the combustion of diesel, the combustion of gasoline had relatively low emissions of TACs. Thus, residential projects typically produce limited amounts of TAC emissions during operation. Nonetheless, it is anticipated that there would be some heavy-duty trucks visiting the project site during operations. Consistent with SJVAPCD guidance, an operational prioritization screening analysis was completed for the proposed project.

Operational DPM emissions from diesel trucks were estimated using EMFAC2021 emission factors and estimated truck travel and idling at the project site. The emissions were entered into the SJVAPCD Prioritization Screening Tool to determine the risk scores, with complete calculations and assumptions included as part of Attachment B. The results of the screening analysis are provided in Table 15.

**Table 15: Prioritization Tool Health Risk Screening Results**

Impact Source	Cancer Risk Score	Chronic Risk Score	Acute Risk Score
Diesel Trucks	2.627	0.008	0.000
<b>Total Risk from Project Operations</b>	<b>2.627</b>	<b>0.008</b>	<b>0.000</b>
Screening Risk Score Threshold	<b>10</b>	<b>1</b>	<b>1</b>
<b>Screening Thresholds Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: Construction Health Risk Assessment and Operational Health Risk Screening (Attachment B)			

As shown in Table 15, the project would not exceed the cancer risk or chronic hazard threshold levels. The primary source of the emissions responsible for chronic risk are from diesel trucks. DPM does not have an acute risk factor. Since the project does not exceed the applicable SJVAPCD screening thresholds for cancer risk, acute risk, or chronic risk, this impact would be less than significant.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. The San Joaquin Valley is considered an endemic area for Valley fever. During 2000–2018, a total of 65,438 coccidioidomycosis cases were reported in California; median statewide annual incidence was 7.9 per 100,000 population and varied by region from 1.1 in Northern and Eastern California to 90.6 in the Southern San Joaquin Valley, with the largest increase (15-fold) occurring in the Northern San Joaquin Valley. Incidence has been consistently high in six counties in the Southern San Joaquin Valley (Fresno, Kern, Kings, Madera,

Tulare, and Merced counties) and Central Coast (San Luis Obispo County) regions.<sup>9</sup> California experienced 7,517 new probable or confirmed cases of Valley fever in 2022. A total of 319 suspect, probable, and confirmed Valley fever cases were reported in Tulare County in 2022.<sup>10</sup>

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

- 1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
- 2) Old (prehistoric) Indian campsites near fire pits
- 3) Areas with sparse vegetation and alkaline soils
- 4) Areas with high salinity soils
- 5) Areas adjacent to arroyos (where residual moisture may be available)
- 6) Packrat middens
- 7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
- 8) Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

- 1) Cultivated fields
- 2) Heavily vegetated areas (e.g., grassy lawns)
- 3) Higher elevations (above 7,000 feet)
- 4) Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied
- 5) Areas that are continually wet
- 6) Paved (asphalt or concrete) or oiled areas
- 7) Soils containing abundant microorganisms
- 8) Heavily urbanized areas where there is little undisturbed virgin soil.<sup>11</sup>

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<sup>9</sup> Centers for Disease Control and Prevention (CDC). 2020. Regional Analysis of Coccidioidomycosis Incidence—California, 2000–2018. Website: [https://www.cdc.gov/mmwr/volumes/69/wr/mm6948a4.htm?s\\_cid=mm6948a4\\_e](https://www.cdc.gov/mmwr/volumes/69/wr/mm6948a4.htm?s_cid=mm6948a4_e). Accessed June 16, 2023.

<sup>10</sup> California Department of Public Health (CDPH). 2021. Coccidioidomycosis in California Provisional Monthly Report January – April 2023 (as of April 30, 2023). Website: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf>. Accessed June 16, 2023.

<sup>11</sup> United States Geological Survey (USGS). 2000. Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), 2000, Open-File Report 2000-348. Website: <https://pubs.usgs.gov/of/2000/0348/pdf/of00-348.pdf>. Accessed June 16, 2023.

The project is situated on a site previously disturbed that does not provide a suitable habitat for spores. Specifically, the project site had been previously cultivated and has vegetation cover in the form of agricultural uses. Therefore, implementation of the proposed project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Although conditions are not favorable, construction activities could generate fugitive dust that contains *C. immitis* spores. The project will minimize the generation of fugitive dust during construction activities by complying with SJVAPCD's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be relatively small because most of the project area where operational activities would occur would be occupied by the proposed residential subdivision and related homes, pavement, and internal streets. This condition would lessen the possibility of the project site providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

#### Naturally Occurring Asbestos

Review of the map of areas where naturally occurring asbestos in California are likely to occur found no such areas in the immediate project area. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos.<sup>12</sup> Impacts would be less than significant.

#### Operations—The Project's Potential to Locate Sensitive Receptor Near Existing Sources of TACs

As a residential project, the project would locate sensitive receptors (future residents) to a site where future project residents could be subject to existing sources of TACs at the project site. However, the California Supreme Court concluded in *California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)* that agencies subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. Therefore, this impact will not be further addressed in this document.

#### Impact Analysis Summary

In summary, the project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The project is not a significant source of TAC emissions during construction or operation. The project is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Therefore, the project would not result in significant impacts to sensitive receptors.

#### **d) Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?**

##### **Less Than Significant Impact.**

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor.

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<sup>12</sup> U.S. Geological Survey. 2011. Van Gosen, B.S., and Clinkenbeard, J.P. California Geological Survey Map Sheet 59. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Open-File Report 2011-1188 Website: <https://pubs.usgs.gov/of/2011/1188/>. Accessed May 20, 2023.

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Although the project is less than one mile from the nearest sensitive receptor, the project is not expected to be a significant source of odors. The screening levels for these land use types are shown in Table 16.

**Table 16: Screening Levels for Potential Odor Sources**

<b>Odor Generator</b>	<b>Screening Distance</b>
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Wastewater Treatment Facilities	2 miles
Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF</a> . Accessed June 16, 2023.	

**Construction**

During construction, various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and intermittent, which would decrease the likelihood of the odors concentrating in a single area or lingering for any notable period of time. As such, these odors would likely not be noticeable for extended periods of time beyond the project’s site boundaries. The potential for odor impacts from construction of the proposed project would, therefore, be less than significant.

**Operations**

**Project as a Potential Odor Generator**

The development of the proposed project would not substantially increase objectionable odors in the area and would not introduce any new sensitive receptors to the area that could be affected by any existing objectionable odor sources in the area. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, asphalt batch plants, rendering plants, and other land uses outlined in Table 16. The proposed residential project would not engage in any of these activities. Minor sources of odors that would be associated with uses typical single-family residential projects, such as exhaust from mobile sources

(including diesel-fueled vehicles), are known to have temporary and less concentrated odors. Considering the low intensity of potential odor emissions, the proposed project’s operational activities would not expose receptors to objectionable odor emissions. Therefore, the proposed project would not be considered to be a generator of objectionable odors during operations. As such, impacts would be less than significant.

**Project as a Receptor**

With the *CBIA v. BAAQMD* ruling, analysis of odor impacts on receivers is not required for CEQA compliance unless the project would exacerbate the impact. As discussed above, the project is residential in nature and would not be considered a major source of odors during construction or operation. Therefore, the following analysis is provided for informational purposes only, while the significance determination for the odor is. As a residential development, the project has the potential to place sensitive receptors near existing and new odor sources. The project area was reviewed for major odor-generating sources (as listed in Table 16) within screening distance of the project site. Results of this review found that the project site could be within the screening distances of the following potential sources of odor: Farmersville Wastewater Treatment Plant, recycling facility/possible composting facility, painting/coating operations (e.g., auto body shop) and Blue Grass Dairy. Public record requests were filed with the SJVAPCD to obtain the most recent 3-year odor complaint history for the potential odor generators within the vicinity of the project site. Based on the responses from the SJVAPCD, there are no land uses within the screening distances shown in Table 16 that have received one (1) or more confirmed complaints per year for the most recent 3-year period or three (3) or more unconfirmed complaints for the most recent 3-year period. The evaluation of potential sources of odors within the project vicinity are provided below in Table 17.

**Table 17: Evaluation of Potential Odor Sources Near the Project Site**

<b>Odor Generator</b>	<b>Screening Distance</b>	<b>Facilities Near the Project Site</b>	<b>Proximity of the Nearest Source to the Project Site</b>	<b>More than One (1) Confirmed Complaints per Year?</b>	<b>More than Three (3) Unconfirmed Complaints per Year?</b>
Wastewater Treatment Facilities	2 miles	Farmersville Wastewater Treatment Plant	Approximately 0.86 mile south of the project site	No	No
Sanitary Landfill	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Transfer Station	1 mile	WM - Tulare County	2.66 miles southwest of the project site	Not Applicable	Not Applicable
Composting Facility	1 mile	Regals Recycling (Recycling Facility that may also serve as a transfer station and/or a composting facility—accepts green waste)	0.66 miles southeast of the project site	No	No
Petroleum Refinery	2 miles	None	> 2 mile	Not Applicable	Not Applicable
Asphalt Batch Plant	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Chemical Manufacturing	1 mile	Processtec (Manufacturer) 345 E Tulare Ave suite e Visalia, CA 93277	3.95 miles northwest of the project site	Not Applicable	Not Applicable



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<b>Odor Generator</b>	<b>Screening Distance</b>	<b>Facilities Near the Project Site</b>	<b>Proximity of the Nearest Source to the Project Site</b>	<b>More than One (1) Confirmed Complaints per Year?</b>	<b>More than Three (3) Unconfirmed Complaints per Year?</b>
Fiberglass Manufacturing	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Painting/Coating Operations (e.g., auto body shop)	1 mile	Pioneer Paint & Body	0.76 mile east of the project site	No	No
		Tapia's Auto Body & Paint Shop	0.81 mile east of the project site	No	No
		C&J Auto Body & Paint	0.86 mile east of the project site	No	No
Food Processing Facility	1 mile	Milk Specialties Global	5.59 miles northwest of the project site	Not Applicable	Not Applicable
		Advanced Food Products LLC (assumed could be a possible food processor)	3.66 miles northwest of the project site		
Feed Lot/Dairy	1 mile	Blue Grass Dairy (36°17'12.50"N, 119°13'27.38"W)	0.82 mile southwest of the project site	No	No
Rendering Plant	1 mile	None	> 1 mile	Not Applicable	Not Applicable
Source of Types of Major Odor Generator Land Uses: See Table 16.					

As shown in Table 17, there are no major odor-generating sources that have received complaints to an extent that would exceed SJVAPCD-recommended thresholds for assessing odor impacts from odor generators. Furthermore, there are existing residential uses located within the screening distances for all the potential sources in the project vicinity. As shown in the dispersion modeling general parameters included in the health risk assessment prepared for the project in Attachment B, the predominant wind direction in project area is northwesterly. The northwesterly winds blow from the northwest towards the southeast direction. Because the Farmersville Wastewater Treatment Plant is located south of the project site, future residents would not be placed downwind of the potential odor source. Regals Recycling is considered a possible odor generator because it may accept green waste and could be considered a compost facility. This possible odor generator is located at 873 S Farmersville Boulevard, Farmersville, CA 93223. The project site is not located downwind of this recycling facility. Considering this information, the uses in the vicinity of the project would not result in substantial odor impacts to the project. Impacts would be less than significant.

## Greenhouse Gas Emissions Estimation Summary and Greenhouse Gas Impact Analysis

### Thresholds of Significance

Section 15064.4(b) of the CEQA Guidelines for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a BAU analysis.<sup>13</sup> Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with "business as usual."

The SJVAPCD has not yet adopted BPS for development projects that could be used to streamline the GHG analysis. For development projects, BPS means, "[a]ny combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

The 29 percent GHG reduction level is based on the target established by CARB's AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession.<sup>14</sup> First occupancy at the project site is expected to occur in 2024, which is after the AB 32 target year. The SJVAPCD has not updated its guidance to address SB 32 2030 targets or AB 1279 2045 targets. Therefore, whether the project's GHG emissions

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<sup>13</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. "Final Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act." Website: [http://www.valleyair.org/programs/CCAP/11-05-09/1\\_CCAP\\_FINAL\\_CEQA\\_GHG\\_Draft\\_Staff\\_Report\\_Nov\\_05\\_2009.pdf](http://www.valleyair.org/programs/CCAP/11-05-09/1_CCAP_FINAL_CEQA_GHG_Draft_Staff_Report_Nov_05_2009.pdf). December 2009. Accessed May 24, 2023.

<sup>14</sup> California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. Website: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>. Accessed May 24, 2023.

would result in a significant impact on the environment is determined by assessing consistency with relevant GHG reduction plans.

**Quantification of Greenhouse Gas Emissions for Informational Purposes**

*Construction*

GHG emissions generated during all construction activities were combined and are shown in Table 18.

**Table 18: Summary of Construction-Generated Greenhouse Gas Emissions**

Emissions Source	MT CO <sub>2e</sub> per Year
Site Work and Internal Paving (2023)	197
Site Work and Internal Paving (2024)	171
Homes Construction (2023)	47
Homes Construction (2024)	459
Homes Construction (2025)	410
Homes Construction (2026)	209
<b>Project Construction Total</b>	<b>1,493</b>
<b>Amortized over 30 Years</b>	<b>49.8</b>
Notes:	
MT CO <sub>2e</sub> = metric tons of carbon dioxide equivalent	
Source: Modeling Assumptions and CalEEMod Output Files (Attachment A).	

*Operations*

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities. Operational GHG emissions associated with the proposed project were estimated using CalEEMod 2022.1. Please see the “Assumptions” sections of this technical memorandum for details regarding assumptions and methodology used to estimate emissions. Operational GHG emissions for a full buildout scenario in the earliest operation year are shown in Table 19. Complete CalEEMod output files and additional supporting information are also included in Attachment A.

**Table 19: Project Operational GHG Emissions (Buildout Year Scenario)**

Emission Source	Unmitigated Buildout Year Total Emissions (MT CO <sub>2e</sub> per year)
Area	61
Energy	570
Mobile (Automobiles)	1,944
Refrigerants	0.35
Water	15
Waste	48
<b>Total (MT CO<sub>2e</sub> per year)</b>	<b>2,638</b>
Source of Emissions: Modeling Assumptions and CalEEMod Output Files (Attachment A).	

**Addressing Greenhouse Gas CEQA Impact Questions**

**Table 20: Summary of Greenhouse Gas Impact Analysis**

<b>Greenhouse Gas Emissions</b>	
<b>Would the project:</b>	<b>Significance Finding</b>
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant Impact
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant Impact

**Greenhouse Gas Mitigation Measures**

No mitigation is required.

**a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less Than Significant Impact.**

The following analysis assesses the project’s compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Farmersville has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines. The County of Tulare has adopted Climate Action Plan; however, the County of Tulare’s Climate Action Plan is only applicable to unincorporated areas of Tulare County. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the project. Since no other local or regional Climate Action Plan is in place, the project is assessed for its consistency with CARB’s adopted Scoping Plans.

**Consistency with CARB’s Adopted Scoping Plans**

*Consistency with AB 32 and CARB’s 2008 Scoping Plan*

The State’s regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted, and the effectiveness of those regulations has been estimated by the agencies during the adoption process and then tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Former Governor Brown, in the introduction to Executive Order B-30-15, stated “California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32).”

*Consistency with SB 32 and CARB’s 2017 Scoping Plan*

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. Table 21 provides an analysis of the project’s consistency with the 2017 Scoping Plan Update measures.

**Table 21: Consistency with SB 32 2017 Scoping Plan Update**

Scoping Plan Measure	Project Consistency
<b>SB 350 50% Renewable Mandate.</b> Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030. <i>(The requirement is now 60% in 2030 per SB 100.)</i>	<b>Consistent:</b> The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
<b>SB 350 Double Building Energy Efficiency by 2030.</b> This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	<b>Not Applicable.</b> This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. New buildings (single-family homes) constructed as part of the proposed project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received. The current Title 24 regulations are the 2022 Title 24 standards, which become effective January 1, 2023.
<b>Low Carbon Fuel Standard.</b> This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	<b>Consistent.</b> This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the project site would be subject to the standards. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
<b>Mobile Source Strategy (Cleaner Technology and Fuels Scenario).</b> Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	<b>Consistent.</b> Future project residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. In addition, home deliveries will be made by increasing numbers of ZEV delivery trucks as the statewide fleet is expected to get cleaner over time.
<b>Sustainable Freight Action Plan.</b> The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	<b>Not Applicable.</b> The measure applies to owners and operators of trucks and freight operations. The project is residential in nature and would not be considered an industrial use or a large freight operator. However, home deliveries are expected to be made by increasing numbers of ZEV delivery trucks as technology continues to improve accessibility to ZEV vehicles and as regulations are phased in over time.
<b>Short-Lived Climate Pollutant (SLCP) Reduction Strategy.</b> The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	<b>Consistent.</b> The project will only include natural gas hearths that produce very little black carbon compared with wood burning fireplaces and heaters in line with the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts mitigation measures. <sup>1</sup>
<b>SB 375 Sustainable Communities Strategies.</b> Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	<b>Consistent.</b> The project will provide residential development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT.
<b>Post-2020 Cap-and-Trade Program.</b> The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	<b>Consistent.</b> The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG

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Scoping Plan Measure	Project Consistency
	emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
<b>Natural and Working Lands Action Plan.</b> CARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	<b>Not Applicable.</b> The project is residential development and will not be considered natural or working lands.
<p>Source: California Air Resources Board (CARB). 2017. The 2017 Climate Change Scoping Plan Update. January 20. Website: <a href="https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf">https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf</a>. Accessed June 16, 2023.</p> <p><sup>1</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: <a href="https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMA">https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMA</a>. Accessed June 16, 2023.</p>	

As described in Table 21, the proposed project would be consistent with applicable 2017 Scoping Plan Update measures and would not obstruct the implementation of others that are not applicable. The State's regulatory program is able to target both new and existing development because the two most important strategies, motor vehicle fuel efficiency and emissions from electricity generation, obtain reductions equally from existing sources and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as the Pavley standards that apply to all vehicles purchased in California, the LCFS (Low Carbon Fuel Standard) that applies to all fuel sold in California, and the Renewable Portfolio Standard and Renewable Energy Standard under SB 100 that apply to utilities providing electricity to all California end users.

Moreover, the Scoping Plan strategy will achieve more than average reductions from energy and mobile source sectors that are the primary sources related to development projects and lower than average reductions from other sources such as agriculture. The proposed residential project's operational GHG emissions would principally be generated from electricity consumption and vehicle use, which are directly under the purview of the Scoping Plan strategy and have experienced reductions above the State average reduction. Considering the information summarized above, the proposed project would be consistent with the State's AB 32 and SB 32 GHG reduction goals.

*Consistency Regarding GHG Reduction Goals for 2050 under Executive Order S-3-05 and GHG Reduction Goals for 2045 under CARB's 2022 Scoping Plan*

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the proposed project would comply with whatever measures are enacted that State lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 are too far in

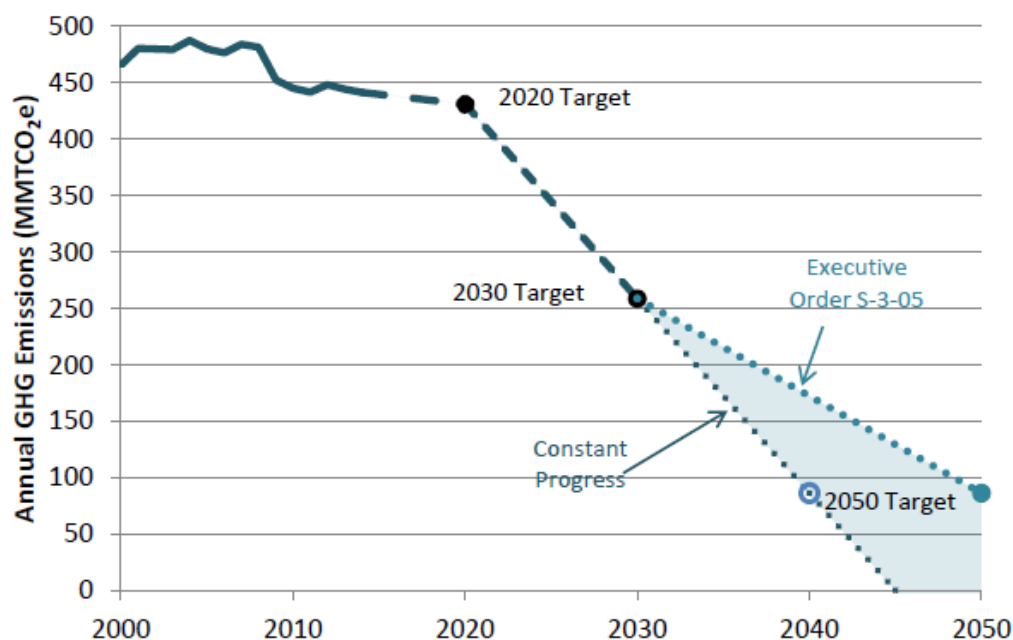
the future to define in detail.” In the First Scoping Plan Update; however, CARB generally described the type of activities required to achieve the 2050 target: “energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.”

CARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: “These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California’s GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate.” In addition, CARB’s First Update “lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050,” and many of the emission reduction strategies recommended by CARB would serve to reduce the proposed project’s post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California’s appliance and building energy efficiency programs and initiatives, such as the State’s zero net energy building goals, would serve to reduce the proposed project’s emissions level. Additionally, further additions to California’s renewable resource portfolio would favorably influence the project’s emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project’s emissions level.
- **Water Sector:** The project’s emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project’s emissions level.

For the reasons described above, the project’s post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 2.

Figure 2: California's Path to Achieving the 2050 Target



Source: CARB 2017 Scoping Plan Update

In his January 2015 inaugural address, former Governor Brown expressed a commitment to achieve “three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions:

- Increasing the State’s Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State’s environmental policy objectives, particularly those relating to global climate change. Studies show that the State’s existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.

Given the proportional contribution of mobile source-related GHG emissions to the State’s inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and



the corresponding effect on GHG emissions. For the reasons described above, the proposed project's future emissions trajectory is expected to follow a declining trend, consistent with the 2030, 2045, and 2050 targets.

The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target. In addition, the 2022 Scoping Plan outlines objectives, regulations, planning efforts, and investments in clean technologies and infrastructure that outlines how the State can achieve carbon-neutrality by 2045. Accordingly, taking into account the proposed project's design features and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the proposed project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

### Impact Analysis Summary

As described above, the proposed project would be consistent with State GHG Plans and would not obstruct the State's ability to meet its goals of reducing GHG emissions 40 percent below 1990 levels by 2030, carbon neutral by 2045, and 80 percent below 1990 levels by 2050. Therefore, the project's generation of GHG emissions would not result in a significant impact on the environment.

#### **b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

##### **Less Than Significant Impact.**

The following analysis assesses the project's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. As discussed under Impact GHG-A, neither the City of Farmersville nor the County of Tulare have adopted a GHG reduction plan that would be applicable to the proposed project. In addition, the City of Farmersville has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines. The SJVAPCD has adopted a Climate Action Plan, but it does not contain measures that are applicable to the project. Therefore, the SJVAPCD Climate Action Plan cannot be applied to the project. The County of Tulare has adopted Climate Action Plan; however, the County of Tulare's Climate Action Plan is only applicable to unincorporated areas of Tulare County and would not be applicable to the proposed project. Since no other local or regional Climate Action Plan is in place, the project is assessed for its consistency with CARB's adopted Scoping Plans. This assessment is included under Impact GHG-A above. As demonstrated in the analysis contained under Impact GHG-A, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases. This impact would be less than significant.

## Energy

### Environmental Setting

The proposed project would be served with electricity provided by Eastside Power Authority or Southern California Edison (SCE). SCE’s 2019 Green Rate 50 percent option includes 67.5 percent eligible renewable resources, including wind, geothermal, solar, eligible hydroelectric, and biomass and biowaste; 4 percent large hydroelectric; 8.1 percent natural gas; 4.1 percent nuclear; 0.1 percent other; and 16.3 percent unspecified sources of power<sup>15</sup> SCE’s 2019 Green Rate 100 percent option includes 100 percent eligible renewable resources, composed entirely of solar. Approximately 43 percent of the electricity that SCE delivered in 2020 was a combination of renewable and GHG-emissions-free resources.<sup>16,17</sup> SCE was ahead of schedule in meeting the California’s RPS 2020 mandate of serving their load with at least 33 percent RPS-eligible resources.

Approximately 23.9 percent of the electricity that Eastside Power Authority delivered in 2021 was from eligible renewable resources,<sup>18</sup> and 48.7 percent was from large hydroelectric.<sup>19</sup> Both SCE and Eastside Power Authority would be required to meet California’s RPS standards of 60 percent by 2030 and carbon-free sourced-electricity by 2045.

### Methodology

The energy requirements for the proposed project were determined using the construction and operational estimates generated from the Air Quality Analysis (refer to Attachment A for related CalEEMod output files). The calculation worksheets for diesel fuel consumption rates for off-road construction equipment and on-road vehicles are provided in Attachment C (Energy Consumption Calculations). Short-term construction energy consumption is discussed below.

#### *Short-Term Construction*

#### **Off-Road Equipment**

Table 22 provides estimates of the project’s construction fuel consumption from off-road construction equipment for the entire project, categorized by construction activity.

**Table 22: Construction Off-Road Fuel Consumption**

Project Component	Construction Activity	Fuel Consumption (gallons)
Cameron Creek Residential Project (On-site, Off-road Equipment Use)	<b>Site Work for the Project Site and Paving of Internal Streets</b>	
	Site Preparation	2,736
	Grading	9,677
	Paving	1,395
	<b>Home Construction</b>	
	Building Construction	29,580
	Paving	1,395

<sup>15</sup> “Unspecified sources of power” means electricity from transactions that are not traceable to specific generation sources.  
<sup>16</sup> Renewable sources included solar, wind, geothermal, biomass, and small hydroelectric sources. GHG-emissions-free sources of energy included nuclear and large hydroelectric. “GHG-emissions-free resources” refers to energy sources other than renewable energy resources that also do not result in GHG emissions, such as non-emitting nuclear and hydroelectric.  
<sup>17</sup> Southern California Edison (SCE). 2021. 2022 Power Content Label. Website: <https://www.energy.ca.gov/filebrowser/download/3902>. Accessed June 20, 2023.  
<sup>18</sup> The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.  
<sup>19</sup> Eastside Power Authority. 2022. 2021 Power Content Label. Website: <https://www.energy.ca.gov/filebrowser/download/4636>. Accessed June 20, 2023.

Project Component	Construction Activity	Fuel Consumption (gallons)
	Architectural Coating	161
<b>Construction Total</b>		<b>44,944</b>
Source: Energy Consumption Calculations (Attachment C).		

As shown in Table 22, use of off-road equipment associated with construction of the proposed project is estimated to consume approximately 44,944 gallons of diesel fuel over the entire construction duration. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the City of Farmersville, the larger Tulare County region, or other parts of California. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

### ***On-Road Vehicles***

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 23 provides an estimate of the total on-road vehicle fuel usage during construction. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

**Table 23: Construction On-Road Fuel Consumption**

	Project Component	Total Annual Fuel Consumption (gallons)
Cameron Creek Residential Project (On-site, Off-road Equipment Use)	<b>Site Work for the Project Site and Paving of Internal Streets</b>	
	Site Preparation	203
	Grading	2,690
	Paving	331
	<b>Home Construction</b>	
	Building Construction	24,060
	Paving	705
	Architectural Coating	263
	<b>Total Construction On-Road Fuel Consumption</b>	
Source: Energy Consumption Calculations (Attachment C).		

### ***Other Energy Consumption Anticipated During Project Construction***

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. The project site is located in the City of Farmersville. As construction activities would occur primarily during daylight hours; it is anticipated that the use of construction lighting would be minimal. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 38,145 kWh during the approximate 2.75-year construction phase (Attachment C).

### ***Long-Term Operations***

#### ***Transportation Energy Demand***

Table 24 provides an estimate of the daily and annual fuel consumed by vehicles traveling to and from the proposed project. These estimates were derived using the same assumptions used in the operational air quality analysis for the proposed project.

**Table 24: Long-Term Operational Vehicle Fuel Consumption**

Vehicle Type	Percent of Vehicle Trips	Annual VMT	Average Fuel Economy (miles/ gallon)	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	52.77	2,832,926	30.14	257.5	93,984
Light Trucks (Pickups) and Medium Vehicles	43.21	2,319,703	22.05	288.2	105,201
Light-Heavy to Medium-Heavy Diesel Trucks	0.98	52,611	11.56	12.5	4,553
Heavy-heavy Trucks	2.14	114,885	5.96	52.8	19,275
Motorcycles	0.25	13,421	41.76	0.9	321
Other	0.65	34,895	7.56	12.6	4,617
<b>Total</b>	<b>100</b>	<b>5,368,441</b>	<b>—</b>	<b>624.5</b>	<b>227,951</b>

Notes:  
 VMT = vehicle miles traveled  
 Percent of Vehicle Trips and VMT provided by CalEEMod.  
 "Other" consists of buses and motor homes.  
 Source: Energy Consumption Calculations (Attachment C).

As shown above, annual vehicular fuel consumption is estimated to be 227,951 gallons of gasoline and diesel fuel combined. Using rates calculated for the 2024 operational year, daily consumption is estimated at approximately 625 gallons of fuel (see Attachment C).

**Building Energy Demand**

As shown in Table 25 and Table 26, the proposed project is estimated to demand 1,341,856 kilowatt-hours (KWhr) of electricity and 5,513,161 1,000-British Thermal Units (kBTU) of natural gas, respectively, on an annual basis.

**Table 25: Long-Term Electricity Usage**

Land Use	Total Electricity Demand (KWhr/year)
Single-family Housing	1,341,856

Source: Energy Consumption Calculations (Attachment C).

**Table 26: Long-Term Natural Gas Usage**

Land Use	Total Natural Gas Demand (kBTU/year)
Single-family Housing	5,513,161

Source: Energy Consumption Calculations (Attachment C).

## Addressing Energy CEQA Impact Questions

This section discusses potential energy impacts associated with the proposed project and provides mitigation measures where necessary.

**Table 27: Summary of Energy Impact Analysis**

Energy	
Would the project:	Significance Finding
a) 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
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than Significant Impact

### Energy Mitigation Measures

No mitigation is required.

#### **a) 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.**

This impact addresses the energy consumption from both the short-term construction and long-term operations are discussed separately below.

##### Construction Energy Demand

As summarized in Table 22 and Table 23, the proposed project would require 44,944 gallons of diesel fuel for construction off-road equipment and 28,252 gallons of gasoline and diesel for on-road vehicles during construction. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or other parts of the state. In addition, the overall construction schedule and process is already designed to be efficient in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region, and as such, impacts would be less than significant.

##### Long-Term Energy Demand

##### **Building Energy Demand**

Buildings and infrastructure constructed pursuant to the proposed project would comply with the versions of CCR Titles 20 and 24, including California Green Building Standards (CALGreen), that are applicable at the time that building permits are issued. The proposed project is estimated to demand 1,341,856 KWhr of electricity per year and 5,513,161 kBtu of natural gas per year. As the project site is currently undeveloped and used for agriculture purposes, this would represent an increase in demand for electricity and natural gas.

It would be expected that building energy consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar buildings in the City of Farmersville or the larger Tulare County region. Current state regulatory requirements for new building construction contained in the 2022 CALGreen and Title 24 standards would increase energy efficiency and reduce energy demand in comparison to most existing development, and therefore would reduce actual environmental effects associated with energy use from the proposed project. Additionally, the CALGreen and Title 24 standards have increased efficiency standards through each update. The most recent 2022 standards became effective January 1, 2023 and will be updated in the next cycle that will become effective at the start of 2026. Therefore, while the proposed project would result in increased electricity and natural gas demand, electricity and natural gas would be consumed more efficiently than most existing development due to compliance with the latest building standards.

Based on the above information, the proposed project would not result in the inefficient or wasteful consumption of electricity or natural gas, and impacts would be less than significant.

### ***Transportation Energy Demands***

The daily vehicular fuel consumption is estimated to be 625 gallons of combined gasoline and diesel fuel. Annual consumption is estimated at 227,951 gallons. In addition, the proposed project would constitute development within an established community and would not be opening a new geographical area for development. As such, the proposed project would not result in unusually long trip lengths for future residents, visitors, or deliveries to the proposed single-family homes. The property is located near other residential land uses. The proposed project would be well-positioned to accommodate an existing community and provide housing for planned growth. Vehicles accessing the site would be typical of vehicles accessing similar residential uses in the City of Farmersville, Tulare County, and surrounding areas. For these reasons, vehicular fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use activities in the region, and impacts would be less than significant.

### **b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

#### **Less Than Significant Impact.**

The project proposes the construction of new residential development that would be built in accordance with all applicable rules and regulations. Compliance with established and applicable regulations would ensure that the project would not conflict with or obstruct any state or local plan for renewable energy or energy efficiency. Moreover, compliance with Title 24 standards would ensure that the proposed project would not conflict with any energy conservation policies related to the proposed project's building envelope, mechanical systems, and indoor and outdoor lighting. Notably, the applicable Title 24 standards require the project to include on-site renewable energy to serve the future project occupants and residents. In addition, the proposed project would constitute development within an established community. Specifically, the project site is adjacent to built-up areas of the City of Farmersville. As such, the project would not be opening a new geographical area for development such that it would not result in unusually long trip lengths for future project residents or visitors. In addition, the proposed residential development is specifically designed for increased walkability, facilitated by the proposed pedestrian connectivity throughout the project site.

For the above reasons, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

**Attachments**

Attachment A – Modeling Assumptions and CalEEMod Output Files

Attachment B – Construction Health Risk Assessment and Operational Health Risk Screening

Attachment C – Energy Consumption Calculations

# **ATTACHMENT A**

## **Modeling Assumptions and CalEEMod Output Files**



# **Modeling Assumptions and CalEEMod Output Files**

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- **Cameron Creek Residential Project Construction Assumptions**
- **Project Site Vicinity Map**
- **Project Trip Generation Assumptions**

### **CalEEMod Output Files**

- **Unmitigated Site Work and Internal Paving Construction**
- **Unmitigated Home Construction & Buildout Operations in the Earliest Year (2024)**
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## Cameron Creek Project Construction Assumptions

Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Unmitigated) Custom Report, 6/16/2023

Cameron Creek Project – Home Construction (Unmitigated) + Operations Custom Report, 6/17/2023

### Construction Phase

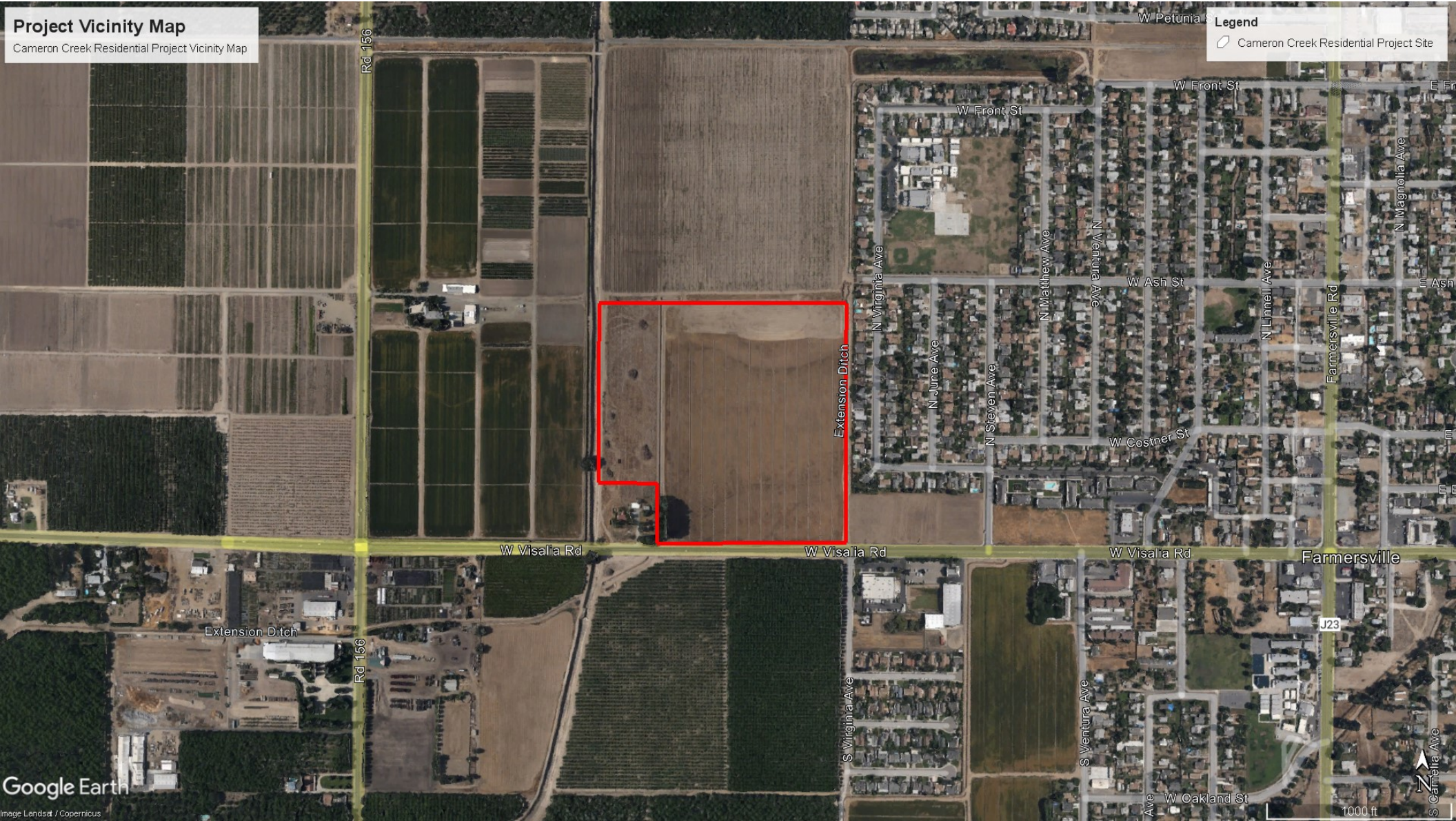
Run	Phase Name	Start Date	End Date	Num Days Week	Num Days
Site Work	Site Preparation	10/2/2023	11/10/2023	5	30
Site Work	Grading	11/11/2023	2/23/2024	5	75
Site Work	Paving	2/24/2024	5/10/2024	5	55
Home Construction	Building Construction	11/21/2023	6/30/2026	5	681
Home Construction	Paving	5/11/2024	7/26/2024	5	55
Home Construction	Architectural Coating	4/15/2026	6/30/2026	5	55

### OffRoad Equipment

Run	Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Work	Site Preparation	Rubber Tired Dozers	3	8	367	0.40
Site Work	Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37
Site Work	Grading	Excavators	2	8	36	0.38
Site Work	Grading	Graders	1	8	148	0.41
Site Work	Grading	Rubber Tired Dozers	1	8	367	0.40
Site Work	Grading	Scrapers	2	8	423	0.48
Site Work	Grading	Tractors/Loaders/Backhoes	2	8	84	0.37
Site Work	Paving	Pavers	2	8	81	0.42
Site Work	Paving	Paving Equipment	2	8	89	0.36
Site Work	Paving	Rollers	2	8	36	0.38
Home Construction	Building Construction	Cranes	1	7.7	367	0.29
Home Construction	Building Construction	Forklifts	3	8.8	82	0.20
Home Construction	Building Construction	Generator Sets	1	8.8	14	0.74
Home Construction	Building Construction	Tractors/Loaders/Backhoes	3	7.7	84	0.37
Home Construction	Building Construction	Welders	1	8.8	46	0.45
Home Construction	Paving	Pavers	2	8	81	0.42
Home Construction	Paving	Paving Equipment	2	8	89	0.36
Home Construction	Paving	Rollers	2	8	36	0.38
Home Construction	Architectural Coating	Air Compressors	1	6	37	0.48

### Construction Trips and VMT

Run	Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Work	Site Preparation	17.50	2	0	7.7	6.8	20
Site Work	Grading	20	2	8.33	7.7	6.8	20
Site Work	Paving	15	2	0	7.7	6.8	20
Home Construction	Building Construction	54.36	16.14	2	7.7	6.8	20
Home Construction	Paving	15	2	2	7.7	6.8	20
Home Construction	Architectural Coating	10.87	2	0	7.7	6.8	20



**Project Vicinity Map**  
Cameron Creek Residential Project Vicinity Map

**Legend**  
○ Cameron Creek Residential Project Site

Google Earth  
Image Landsat / Copernicus



## **PROJECT TRIP GENERATION**

The project trip generation volumes shown in Table 1 were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Trip rates, equations, and directional splits for ITE Land Use Code 210 (Single Family Detached Housing) were used to estimate project trips for weekday peak hour of adjacent street traffic.

**Table 1**  
**Project Trip Generation**

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	151 Dwelling Units	eq	1474	eq	26% 27	74% 81	eq	63% 92	37% 54

## **PROJECT TRIP DISTRIBUTION AND ASSIGNMENT**

The distribution of project peak hour trips is shown in Table 2 and represents the movement of traffic accessing the project site by direction. The project trip distribution was developed based on site location and travel patterns anticipated for the proposed land uses.

**Table 2**  
**Project Trip Distribution**

Direction	Percent
North	10
East	15
South	10
West	65

# Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Unmitigated) Custom Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Unmitigated)
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Asphalt Surfaces	6.37	Acre	6.37	0.00	—	—	510	Internal streets + an additional acre for frontage/offsite improvements
Other Asphalt Surfaces	30.4	Acre	30.4	0.00	94,090	—	—	Total project site gross acreage: 35.81 (5.37 + 30.44 = 35.81)

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.11	2.69	7.96	10.9	0.01	0.39	1.47	1.86	0.36	0.16	0.52	—	1,655	1,655	0.07	0.02	0.50	1,664
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.80	4.05	39.9	36.3	0.07	1.81	9.15	11.0	1.66	4.10	5.76	—	7,371	7,371	0.29	0.17	0.05	7,427
2024	4.33	3.63	35.3	31.2	0.07	1.46	5.24	6.70	1.34	1.63	2.98	—	7,358	7,358	0.29	0.16	0.05	7,413
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.85	0.72	7.10	6.24	0.01	0.31	1.27	1.58	0.28	0.50	0.78	—	1,184	1,184	0.05	0.02	0.11	1,191
2024	0.62	0.79	4.93	4.92	0.01	0.21	0.77	0.99	0.20	0.20	0.39	—	1,026	1,026	0.04	0.02	0.13	1,033
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.13	1.30	1.14	< 0.005	0.06	0.23	0.29	0.05	0.09	0.14	—	196	196	0.01	< 0.005	0.02	197



2024	0.11	0.14	0.90	0.90	< 0.005	0.04	0.14	0.18	0.04	0.04	0.07	—	170	170	0.01	< 0.005	0.02	171
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### 3. Construction Emissions Details

#### 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.32	3.27	2.92	< 0.005	0.15	—	0.15	0.14	—	0.14	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement:	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.07	0.06	0.60	0.53	< 0.005	0.03	—	0.03	0.02	—	0.02	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	0.78	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.4	97.4	0.01	< 0.005	0.01	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.31	8.31	< 0.005	< 0.005	0.02	8.45
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	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	0.00

### 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.72	3.13	0.01	0.16	—	0.16	0.15	—	0.15	—	659	659	0.03	0.01	—	661
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.68	0.57	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.09	0.89	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	0.01	0.01	113
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	0.03	0.01	0.85	0.19	0.01	0.01	0.15	0.17	0.01	0.04	0.05	—	610	610	0.01	0.10	0.04	639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.43	4.43	< 0.005	< 0.005	0.01	4.63
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.8	60.8	< 0.005	0.01	0.06	63.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

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Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.62	3.19	0.01	0.15	—	0.15	0.14	—	0.14	—	697	697	0.03	0.01	—	700
Dust From Material Movement:	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.66	0.58	< 0.005	0.03	—	0.03	0.03	—	0.03	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	111
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	0.03	0.01	0.82	0.19	< 0.005	0.01	0.15	0.17	0.01	0.04	0.05	—	600	600	0.01	0.09	0.04	628.63

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.62	4.62	< 0.005	< 0.005	0.01	4.84
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.3	63.3	< 0.005	0.01	0.06	66.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0

### 3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57

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Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	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	0.00

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2023	11/10/2023	5.00	30.0	—
Grading	Grading	11/11/2023	2/23/2024	5.00	75.0	—
Paving	Paving	2/24/2024	5/10/2024	5.00	55.0	—

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42



Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.80	HHDT,MHDT
Grading	Hauling	8.33	20.0	HHDT
Grading	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

### 5.4. Vehicles

#### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	45.0	0.00	—
Grading	2,500	2,500	225	0.00	—
Paving	0.00	0.00	0.00	0.00	36.8

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	6.37	100%
Other Asphalt Surfaces	30.4	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005

## 8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Site work for the entire project site + 1 acre of offsite improvements Earliest construction start: October 2023

# Cameron Creek Project – Home Construction (Unmitigated) + Operations Custom Report

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8. User Changes to Default Data



# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project – Home Construction (Unmitigated) + Operations
Construction Start Date	10/2/2023
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Single Family Housing	151	Dwelling Unit	35.8	294,450	99,667	—	510	151 single-family homes on 35.81 gross acres
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### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.60	21.4	28.4	0.04	0.95	3.30	4.25	0.87	0.41	1.28	—	5,275	5,275	0.21	0.16	3.51	5,332
2025	1.82	1.55	12.4	17.2	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,460	3,460	0.14	0.11	2.54	3,499
2026	1.93	35.2	12.6	18.5	0.03	0.45	3.24	3.69	0.41	0.40	0.81	—	3,690	3,690	0.15	0.12	2.65	3,733
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.00	1.70	14.0	17.2	0.03	0.62	1.80	2.41	0.57	0.24	0.81	—	3,452	3,452	0.15	0.12	0.07	3,489
2024	1.91	1.61	13.3	16.9	0.03	0.56	1.80	2.35	0.51	0.24	0.75	—	3,438	3,438	0.14	0.11	0.07	3,475
2025	1.78	1.51	12.4	16.6	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,423	3,423	0.14	0.11	0.07	3,460
2026	1.69	1.42	11.7	16.4	0.03	0.42	1.80	2.22	0.39	0.24	0.63	—	3,407	3,407	0.14	0.11	0.06	3,444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.14	1.12	1.38	< 0.005	0.05	0.14	0.19	0.05	0.02	0.06	—	278	278	0.01	0.01	0.10	281
2024	1.54	1.30	10.8	13.8	0.02	0.46	1.51	1.97	0.42	0.20	0.62	—	2,740	2,740	0.11	0.09	0.88	2,770
2025	1.28	1.08	8.86	11.9	0.02	0.34	1.28	1.62	0.32	0.17	0.49	—	2,453	2,453	0.10	0.08	0.78	2,479

2026	0.63	5.58	4.29	6.06	0.01	0.15	0.85	1.01	0.14	0.11	0.25	—	1,247	1,247	0.05	0.04	0.38	1,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.21	0.25	< 0.005	0.01	0.03	0.04	0.01	< 0.005	0.01	—	46.0	46.0	< 0.005	< 0.005	0.02	46.5
2024	0.28	0.24	1.96	2.51	< 0.005	0.08	0.28	0.36	0.08	0.04	0.11	—	454	454	0.02	0.01	0.15	459
2025	0.23	0.20	1.62	2.18	< 0.005	0.06	0.23	0.30	0.06	0.03	0.09	—	406	406	0.02	0.01	0.13	410
2026	0.11	1.02	0.78	1.11	< 0.005	0.03	0.16	0.18	0.03	0.02	0.05	—	206	206	0.01	0.01	0.06	209

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.11	6.52	6.18	68.4	0.12	0.08	10.4	10.5	0.08	2.63	2.71	—	12,409	12,409	0.58	0.60	49.6	12,652
Area	0.97	7.66	1.34	9.07	0.01	0.10	—	0.10	0.11	—	0.11	0.00	1,613	1,613	0.03	< 0.005	—	1,614
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	8.25	14.3	8.91	78.1	0.14	0.30	10.4	10.7	0.30	2.63	2.92	94.4	17,491	17,586	10.3	0.65	51.7	18,090
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.21	5.60	7.30	52.5	0.11	0.08	10.4	10.5	0.08	2.63	2.71	—	11,161	11,161	0.65	0.66	1.29	11,375
Area	0.15	6.88	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11 77

Total	6.52	12.6	9.94	53.7	0.13	0.30	10.4	10.7	0.29	2.63	2.92	94.4	16,221	16,315	10.4	0.71	3.40	16,790
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.34	5.74	6.75	54.9	0.11	0.08	10.4	10.5	0.08	2.63	2.71	—	11,519	11,519	0.61	0.63	21.4	11,743
Area	0.44	7.21	0.32	4.33	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	368	368	0.01	< 0.005	—	369
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	6.95	13.0	8.46	59.8	0.12	0.22	10.4	10.6	0.22	2.63	2.84	94.4	15,357	15,452	10.4	0.68	23.5	15,936
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.16	1.05	1.23	10.0	0.02	0.02	1.89	1.91	0.01	0.48	0.49	—	1,907	1,907	0.10	0.10	3.55	1,944
Area	0.08	1.32	0.06	0.79	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	61.0	61.0	< 0.005	< 0.005	—	61.1
Energy	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	568	568	0.05	< 0.005	—	570
Water	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9
Waste	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.27	2.38	1.54	10.9	0.02	0.04	1.89	1.93	0.04	0.48	0.52	15.6	2,543	2,558	1.72	0.11	3.90	2,638

### 3. Construction Emissions Details

#### 3.1. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	13.0	14.5	0.03	0.61	—	0.61	0.56	—	0.56	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.16	< 0.005	0.05	—	0.05	0.04	—	0.04	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.25	2.42	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	303	303	0.03	0.02	0.04	308
Vendor	0.03	0.01	0.57	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	358	358	0.01	0.05	0.02	374
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	< 0.005	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.05	25.6
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.0
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.24
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.97
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

### 3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	0.95	8.84	10.3	0.02	0.39	—	0.39	0.36	—	0.36	—	1,889	1,889	0.08	0.02	—	1,895
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.89	< 0.005	0.07	—	0.07	0.07	—	0.07	—	313	313	0.01	< 0.005	—	314

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.31	0.18	2.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	335	335	0.02	0.01	1.37	341
Vendor	0.02	0.02	0.51	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.94	370
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.22	2.21	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	296	296	0.03	0.01	0.04	301
Vendor	0.02	0.01	0.55	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.02	369
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.14	1.64	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	220	220	0.02	0.01	0.42	224
Vendor	0.02	0.01	0.38	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	253	253	0.01	0.04	0.29	265
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.11	108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.8
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Cameron Creek Project – Home Construction (Unmitigated) + Operations Custom Report, 6/17/2023

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	8.21	10.2	0.02	0.34	—	0.34	0.31	—	0.31	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.87	< 0.005	0.06	—	0.06	0.06	—	0.06	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.17	2.59	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	328	328	0.02	0.01	1.25	334
Vendor	0.02	0.01	0.49	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.94	363
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.34	148



Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.20	2.03	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	290	290	0.02	0.01	0.03	295
Vendor	0.02	0.01	0.52	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.02	363
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.13	1.50	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	215	215	0.02	0.01	0.39	219
Vendor	0.02	0.01	0.36	0.13	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.29	259
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.10	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.6	35.6	< 0.005	< 0.005	0.06	36.2
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.9
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.02	17.5

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.84	5.05	0.01	0.15	—	0.15	0.14	—	0.14	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.92	< 0.005	0.03	—	0.03	0.02	—	0.02	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.14	2.39	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	321	321	0.02	0.01	1.14	327
Vendor	0.02	0.01	0.47	0.17	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	340	340	0.01	0.05	0.84	357
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.32	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	1.87	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	284	284	0.02	0.01	0.03	289
Vendor	0.02	0.01	0.50	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	341	341	0.01	0.05	0.02	356
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.68	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.13	126

Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.05	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.50

### 3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.76

### 3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architectural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.48	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.23	65.4
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.10	44.2
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.88	8.88	< 0.005	< 0.005	0.01	9.04
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.36	6.36	< 0.005	< 0.005	0.01	6.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	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	0.00

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	7.11	6.52	6.18	68.4	0.12	0.08	10.4	10.5	0.08	2.63	2.71	—	12,409	12,409	0.58	0.60	49.6	12,652
Total	7.11	6.52	6.18	68.4	0.12	0.08	10.4	10.5	0.08	2.63	2.71	—	12,409	12,409	0.58	0.60	49.6	12,652
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	6.21	5.60	7.30	52.5	0.11	0.08	10.4	10.5	0.08	2.63	2.71	—	11,161	11,161	0.65	0.66	1.29	11,375
Total	6.21	5.60	7.30	52.5	0.11	0.08	10.4	10.5	0.08	2.63	2.71	—	11,161	11,161	0.65	0.66	1.29	11,375
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.16	1.05	1.23	10.0	0.02	0.02	1.89	1.91	0.01	0.48	0.49	—	1,907	1,907	0.10	0.10	3.55	1,944
Total	1.16	1.05	1.23	10.0	0.02	0.02	1.89	1.91	0.01	0.48	0.49	—	1,907	1,907	0.10	0.10	3.55	1,944

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.02	< 0.005	—	277
Total	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.02	< 0.005	—	277

#### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Total	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Total	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	293	293	0.03	< 0.005	—	293
Total	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	293	293	0.03	< 0.005	—	293

#### 4.3. Area Emissions by Source

##### 4.3.2. Unmitigated



Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Consumer Products	—	6.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.83	0.78	0.08	8.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.9	22.9	< 0.005	< 0.005	—	23.0
Total	0.97	7.66	1.34	9.07	0.01	0.10	—	0.10	0.11	—	0.11	0.00	1,613	1,613	0.03	< 0.005	—	1,614
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Consumer Products	—	6.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.15	6.88	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	59.1	59.1	< 0.005	< 0.005	—	59.2
Consumer Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	0.07	0.01	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Total	0.08	1.32	0.06	0.79	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	61.0	61.0	< 0.005	< 0.005	—	61.1

### 4.4. Water Emissions by Land Use

#### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Total	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Total	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9
Total	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9

### 4.5. Waste Emissions by Land Use

#### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Total	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Total	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5
Total	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5

### 4.6. Refrigerant Emissions by Land Use

#### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

### 4.7. Offroad Emissions By Equipment Type

#### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	11/21/2023	6/30/2026	5.00	681	Home construction to start after site preparation and some grading



Paving	Paving	5/11/2024	7/26/2024	5.00	55.0	—
Architectural Coating	Architectural Coating	4/15/2026	6/30/2026	5.00	55.0	—

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	6.80	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	596,261	198,754	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Paving	0.00	0.00	0.00	0.00	1.66

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
			100

Water Exposed Area	2	61%	61%
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## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.66	0%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	1,474	1,474	1,474	538,010	14,708	14,708	14,708	5,368,440

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
-------------	----------------------

Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	76
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	76
Conventional Wood Stoves	0
Catalytic Wood Stoves	8
Non-Catalytic Wood Stoves	8
Pellet Wood Stoves	0

### 5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
596261.25	198,754	0.00	0.00	—

### 5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	1,341,856	453	0.0330	0.0040	5,513,161

### 5.12. Operational Water and Wastewater Consumption

#### 5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	6,426,960	1,758,037

### 5.13. Operational Waste Generation

#### 5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	152	—

### 5.14. Operational Refrigeration and Air Conditioning Equipment

#### 5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

### 5.15. Operational Off-Road Equipment

#### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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### 5.16. Stationary Sources

#### 5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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#### 5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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### 5.17. User Defined

Equipment Type	Fuel Type
—	—

### 5.18. Vegetation

#### 5.18.1. Land Use Change

##### 5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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#### 5.18.1. Biomass Cover Type

##### 5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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#### 5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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## 8. User Changes to Default Data

Screen	Justification
Land Use	151 single-family homes on 35.81 gross acres. Land use development to be evaluated, consistent with the project description and traffic impact analysis.
Construction: Construction Phases	Vertical home construction (site preparation, grading, and paving for internal streets included in a separate run). Adjusted schedule based on applicant-provided construction schedule: October 2023 (site preparation/grading) to June 2026 (end home construction)
Construction: Off-Road Equipment	Adjusted building construction usage hours to retain total CalEEMod HP usage hours (adjustment necessary because construction schedule reduced compared to the default).
Construction: Trips and VMT	Additional haul, vendor, and onsite truck trips added to account for miscellaneous construction trips and to present a conservative estimate of emissions.
Operations: Vehicle Data	Project-specific trip generation, consistent with the traffic analysis
Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2024 operational year applied to single-family homes.
Operations: Hearths	SJVAPCD Rule 4901 Woodburning No woodburning fireplaces or wood stoves

# Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Tier 3 Mitigated) Custom Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Tier 3 Mitigated)
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Asphalt Surfaces	6.37	Acre	6.37	0.00	—	—	510	Internal streets + an additional acre for frontage/offsite improvements
Other Asphalt Surfaces	30.4	Acre	30.4	0.00	94,090	—	—	Total project site gross acreage: 35.81 (5.37 + 30.44 = 35.81)

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.11	2.69	7.96	10.9	0.01	0.39	1.47	1.86	0.36	0.16	0.52	—	1,655	1,655	0.07	0.02	0.50	1,664
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.80	4.05	39.9	36.3	0.07	1.81	9.15	11.0	1.66	4.10	5.76	—	7,371	7,371	0.29	0.17	0.05	7,427
2024	4.33	3.63	35.3	31.2	0.07	1.46	5.24	6.70	1.34	1.63	2.98	—	7,358	7,358	0.29	0.16	0.05	7,413
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.85	0.72	7.10	6.24	0.01	0.31	1.27	1.58	0.28	0.50	0.78	—	1,184	1,184	0.05	0.02	0.11	1,191
2024	0.62	0.79	4.93	4.92	0.01	0.21	0.77	0.99	0.20	0.20	0.39	—	1,026	1,026	0.04	0.02	0.13	1,031

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.13	1.30	1.14	< 0.005	0.06	0.23	0.29	0.05	0.09	0.14	—	196	196	0.01	< 0.005	0.02	197
2024	0.11	0.14	0.90	0.90	< 0.005	0.04	0.14	0.18	0.04	0.04	0.07	—	170	170	0.01	< 0.005	0.02	171

### 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.66	2.35	8.37	11.5	0.01	0.35	1.47	1.82	0.32	0.16	0.48	—	1,655	1,655	0.07	0.02	0.50	1,664
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.48	1.41	30.9	36.5	0.07	1.19	9.15	10.1	1.07	4.10	4.94	—	7,371	7,371	0.29	0.17	0.05	7,427
2024	1.45	2.34	30.8	36.4	0.07	1.19	5.24	6.42	1.06	1.63	2.69	—	7,358	7,358	0.29	0.16	0.05	7,413
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.23	0.22	5.07	6.05	0.01	0.20	1.27	1.47	0.18	0.50	0.68	—	1,184	1,184	0.05	0.02	0.11	1,191
2024	0.25	0.50	4.51	5.56	0.01	0.18	0.77	0.95	0.16	0.20	0.36	—	1,026	1,026	0.04	0.02	0.13	1,033
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.04	0.04	0.93	1.10	< 0.005	0.04	0.23	0.27	0.03	0.09	0.12	—	196	196	0.01	< 0.005	0.02	197
2024	0.05	0.09	0.82	1.01	< 0.005	0.03	0.14	0.17	0.03	0.04	0.07	—	170	170	0.01	< 0.005	0.02	171

## 3. Construction Emissions Details

### 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.32	3.27	2.92	< 0.005	0.15	—	0.15	0.14	—	0.14	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.60	0.53	< 0.005	0.03	—	0.03	0.02	—	0.02	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	0.78	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.4	97.4	0.01	< 0.005	0.01	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.31	8.31	< 0.005	< 0.005	0.02	8.45
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	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	0.00

### 3.2. Site Preparation (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.90	24.0	28.3	0.05	0.94	—	0.94	0.84	—	0.84	—	5,295	5,295	0.21	0.04	—	5,314

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Dust From Material Movement:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.07	0.07	1.97	2.33	< 0.005	0.08	—	0.08	0.07	—	0.07	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement:	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.01	0.01	0.36	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement:	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.10	0.09	0.08	0.78	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.4	97.4	0.01	< 0.005	0.01	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00



Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.31	8.31	< 0.005	< 0.005	0.02	8.45
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	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	0.00

### 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.72	3.13	0.01	0.16	—	0.16	0.15	—	0.15	—	659	659	0.03	0.01	—	661

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Dust From Material Movement:	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.08	0.07	0.68	0.57	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.11	0.11	0.09	0.89	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	0.01	0.01	113
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	0.03	0.01	0.85	0.19	0.01	0.01	0.15	0.17	0.01	0.04	0.05	—	610	610	0.01	0.10	0.04	639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.43	4.43	< 0.005	< 0.005	0.01	4.63
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.8	60.8	< 0.005	0.01	0.06	63.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77

Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6
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### 3.4. Grading (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	1.29	29.8	35.4	0.06	1.18	—	1.18	1.06	—	1.06	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	2.98	3.53	0.01	0.12	—	0.12	0.11	—	0.11	—	659	659	0.03	0.01	—	661
Dust From Material Movement:	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.54	0.64	< 0.005	0.02	—	0.02	0.02	—	0.02	—	109	109	< 0.005	< 0.005	—	109

Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.09	0.89	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	0.01	0.01	113
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	0.03	0.01	0.85	0.19	0.01	0.01	0.15	0.17	0.01	0.04	0.05	—	610	610	0.01	0.10	0.04	639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.43	4.43	< 0.005	< 0.005	0.01	4.63
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.8	60.8	< 0.005	0.01	0.06	63.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.62	3.19	0.01	0.15	—	0.15	0.14	—	0.14	—	697	697	0.03	0.01	—	700
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.66	0.58	< 0.005	0.03	—	0.03	0.03	—	0.03	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	111
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	0.03	0.01	0.82	0.19	< 0.005	0.01	0.15	0.17	0.01	0.04	0.05	—	600	600	0.01	0.09	0.04	628
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.62	4.62	< 0.005	< 0.005	0.01	4.84
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.3	63.3	< 0.005	0.01	0.06	66.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0

### 3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.31	1.27	29.8	35.4	0.06	1.17	—	1.17	1.05	—	1.05	—	6,598	6,598	0.27	0.05	—	6,621

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Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.14	0.13	3.15	3.74	0.01	0.12	—	0.12	0.11	—	0.11	—	697	697	0.03	0.01	—	700
Dust From Material Movement:	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.03	0.02	0.57	0.68	< 0.005	0.02	—	0.02	0.02	—	0.02	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	111
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	0.03	0.01	0.82	0.19	< 0.005	0.01	0.15	0.17	0.01	0.04	0.05	—	600	600	0.01	0.09	0.04	628

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.62	4.62	< 0.005	< 0.005	0.01	4.84
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.3	63.3	< 0.005	0.01	0.06	66.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0

### 3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57



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Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	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	0.00

### 3.8. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.51	8.23	10.6	0.01	0.35	—	0.35	0.32	—	0.32	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.51	8.23	10.6	0.01	0.35	—	0.35	0.32	—	0.32	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.24	1.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.23	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	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	0.00

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2023	11/10/2023	5.00	30.0	—
Grading	Grading	11/11/2023	2/23/2024	5.00	75.0	—
Paving	Paving	2/24/2024	5/10/2024	5.00	55.0	—

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

#### 5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 3	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.80	HHDT,MHDT
Grading	Hauling	8.33	20.0	HHDT
Grading	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

### 5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.80	HHDT,MHDT
Grading	Hauling	8.33	20.0	HHDT
Grading	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

### 5.4. Vehicles

#### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	45.0	0.00	—
Grading	2,500	2,500	225	0.00	—
Paving	0.00	0.00	0.00	0.00	36.8

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	6.37	100%
Other Asphalt Surfaces	30.4	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005

## 8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Site work for the entire project site + 1 acre of offsite improvements Earliest construction start: October 2023



# Cameron Creek Project – Home Construction (Tier 3 Mitigated) Custom Report

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## 8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project – Home Construction (Tier 3 Mitigated)
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Single Family Housing	151	Dwelling Unit	35.8	294,450	99,667	—	510	151 single-family homes on 35.81 gross acres
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### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.60	21.4	28.4	0.04	0.95	3.30	4.25	0.87	0.41	1.28	—	5,275	5,275	0.21	0.16	3.51	5,332
2025	1.82	1.55	12.4	17.2	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,460	3,460	0.14	0.11	2.54	3,499
2026	1.93	35.2	12.6	18.5	0.03	0.45	3.24	3.69	0.41	0.40	0.81	—	3,690	3,690	0.15	0.12	2.65	3,733
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.00	1.70	14.0	17.2	0.03	0.62	1.80	2.41	0.57	0.24	0.81	—	3,452	3,452	0.15	0.12	0.07	3,489
2024	1.91	1.61	13.3	16.9	0.03	0.56	1.80	2.35	0.51	0.24	0.75	—	3,438	3,438	0.14	0.11	0.07	3,475
2025	1.78	1.51	12.4	16.6	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,423	3,423	0.14	0.11	0.07	3,460
2026	1.69	1.42	11.7	16.4	0.03	0.42	1.80	2.22	0.39	0.24	0.63	—	3,407	3,407	0.14	0.11	0.06	3,444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.14	1.12	1.38	< 0.005	0.05	0.14	0.19	0.05	0.02	0.06	—	278	278	0.01	0.01	0.10	281

2024	1.54	1.30	10.8	13.8	0.02	0.46	1.51	1.97	0.42	0.20	0.62	—	2,740	2,740	0.11	0.09	0.88	2,770
2025	1.28	1.08	8.86	11.9	0.02	0.34	1.28	1.62	0.32	0.17	0.49	—	2,453	2,453	0.10	0.08	0.78	2,479
2026	0.63	5.58	4.29	6.06	0.01	0.15	0.85	1.01	0.14	0.11	0.25	—	1,247	1,247	0.05	0.04	0.38	1,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.21	0.25	< 0.005	0.01	0.03	0.04	0.01	< 0.005	0.01	—	46.0	46.0	< 0.005	< 0.005	0.02	46.5
2024	0.28	0.24	1.96	2.51	< 0.005	0.08	0.28	0.36	0.08	0.04	0.11	—	454	454	0.02	0.01	0.15	459
2025	0.23	0.20	1.62	2.18	< 0.005	0.06	0.23	0.30	0.06	0.03	0.09	—	406	406	0.02	0.01	0.13	410
2026	0.11	1.02	0.78	1.11	< 0.005	0.03	0.16	0.18	0.03	0.02	0.05	—	206	206	0.01	0.01	0.06	209

### 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.82	1.65	23.0	31.1	0.04	0.89	3.30	4.19	0.81	0.41	1.22	—	5,275	5,275	0.21	0.16	3.51	5,332
2025	1.10	1.01	14.4	19.3	0.03	0.53	1.80	2.33	0.48	0.24	0.72	—	3,460	3,460	0.14	0.11	2.54	3,499
2026	1.27	34.7	15.2	20.7	0.03	0.55	3.24	3.79	0.50	0.40	0.89	—	3,690	3,690	0.15	0.12	2.65	3,733
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.15	1.05	14.6	19.2	0.03	0.55	1.80	2.35	0.50	0.24	0.74	—	3,452	3,452	0.15	0.12	0.07	3,489
2024	1.11	1.00	14.5	19.0	0.03	0.54	1.80	2.34	0.49	0.24	0.73	—	3,438	3,438	0.14	0.11	0.07	3,475
2025	1.06	0.97	14.4	18.8	0.03	0.53	1.80	2.33	0.48	0.24	0.72	—	3,423	3,423	0.14	0.11	0.07	3,460
2026	1.03	0.93	14.4	18.6	0.03	0.52	1.80	2.32	0.47	0.24	0.72	—	3,407	3,407	0.14	0.11	0.06	3,444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.09	0.08	1.17	1.55	< 0.005	0.04	0.14	0.19	0.04	0.02	0.06	—	278	278	0.01	0.01	0.10	281
2024	0.90	0.81	11.7	15.4	0.02	0.44	1.51	1.95	0.40	0.20	0.60	—	2,740	2,740	0.11	0.09	0.88	2,770

2025	0.76	0.70	10.3	13.4	0.02	0.38	1.28	1.66	0.34	0.17	0.51	—	2,453	2,453	0.10	0.08	0.78	2,479
2026	0.40	5.41	5.22	6.84	0.01	0.19	0.85	1.04	0.17	0.11	0.28	—	1,247	1,247	0.05	0.04	0.38	1,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.02	0.21	0.28	< 0.005	0.01	0.03	0.03	0.01	< 0.005	0.01	—	46.0	46.0	< 0.005	< 0.005	0.02	46.5
2024	0.16	0.15	2.13	2.80	< 0.005	0.08	0.28	0.36	0.07	0.04	0.11	—	454	454	0.02	0.01	0.15	459
2025	0.14	0.13	1.88	2.45	< 0.005	0.07	0.23	0.30	0.06	0.03	0.09	—	406	406	0.02	0.01	0.13	410
2026	0.07	0.99	0.95	1.25	< 0.005	0.03	0.16	0.19	0.03	0.02	0.05	—	206	206	0.01	0.01	0.06	209

### 3. Construction Emissions Details

#### 3.1. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	13.0	14.5	0.03	0.61	—	0.61	0.56	—	0.56	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.16	< 0.005	0.05	—	0.05	0.04	—	0.04	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.25	2.42	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	303	303	0.03	0.02	0.04	308
Vendor	0.03	0.01	0.57	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	358	358	0.01	0.05	0.02	374
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	< 0.005	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.05	25.6
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.0
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.24
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.97
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

### 3.2. Building Construction (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.73	13.6	16.5	0.03	0.54	—	0.54	0.49	—	0.49	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.09	1.32	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.25	2.42	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	303	303	0.03	0.02	0.04	308
Vendor	0.03	0.01	0.57	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	358	358	0.01	0.05	0.02	374
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	< 0.005	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.05	25.6
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.0
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.24
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.97
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

### 3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	0.95	8.84	10.3	0.02	0.39	—	0.39	0.36	—	0.36	—	1,889	1,889	0.08	0.02	—	1,895

Cameron Creek Project – Home Construction (Tier 3 Mitigated) Custom Report, 6/18/2023

Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.89	< 0.005	0.07	—	0.07	0.07	—	0.07	—	313	313	0.01	< 0.005	—	314
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.31	0.18	2.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	335	335	0.02	0.01	1.37	341
Vendor	0.02	0.02	0.51	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.94	370
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.22	2.21	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	296	296	0.03	0.01	0.04	301
Vendor	0.02	0.01	0.55	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.02	369
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.14	1.64	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	220	220	0.02	0.01	0.42	224
Vendor	0.02	0.01	0.38	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	253	253	0.01	0.04	0.29	265
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.11	108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.8
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9

### 3.4. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	0.72	13.5	16.5	0.03	0.53	—	0.53	0.48	—	0.48	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	0.72	13.5	16.5	0.03	0.53	—	0.53	0.48	—	0.48	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.51	9.70	11.8	0.02	0.38	—	0.38	0.34	—	0.34	—	1,889	1,889	0.08	0.02	—	1,895
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	1.77	2.16	< 0.005	0.07	—	0.07	0.06	—	0.06	—	313	313	0.01	< 0.005	—	314
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.31	0.18	2.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	335	335	0.02	0.01	1.37	341
Vendor	0.02	0.02	0.51	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.94	370
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.22	2.21	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	296	296	0.03	0.01	0.04	301
Vendor	0.02	0.01	0.55	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.02	369
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.14	1.64	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	220	220	0.02	0.01	0.42	224
Vendor	0.02	0.01	0.38	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	253	253	0.01	0.04	0.29	265
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.11	108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.8
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	8.21	10.2	0.02	0.34	—	0.34	0.31	—	0.31	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.87	< 0.005	0.06	—	0.06	0.06	—	0.06	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.17	2.59	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	328	328	0.02	0.01	1.25	334
Vendor	0.02	0.01	0.49	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.94	363
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.34	148
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.20	2.03	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	290	290	0.02	0.01	0.03	295

Vendor	0.02	0.01	0.52	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.02	363
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.13	1.50	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	215	215	0.02	0.01	0.39	219
Vendor	0.02	0.01	0.36	0.13	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.29	259
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.10	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.6	35.6	< 0.005	< 0.005	0.06	36.2
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.9
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.02	17.5

### 3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.70	13.5	16.5	0.03	0.52	—	0.52	0.47	—	0.47	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.70	13.5	16.5	0.03	0.52	—	0.52	0.47	—	0.47	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43

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Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.50	9.64	11.8	0.02	0.37	—	0.37	0.34	—	0.34	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	1.76	2.15	< 0.005	0.07	—	0.07	0.06	—	0.06	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.17	2.59	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	328	328	0.02	0.01	1.25	334
Vendor	0.02	0.01	0.49	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.94	363
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.34	148
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.20	2.03	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	290	290	0.02	0.01	0.03	295
Vendor	0.02	0.01	0.52	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.02	363
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.13	1.50	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	215	215	0.02	0.01	0.39	219
Vendor	0.02	0.01	0.36	0.13	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.29	259
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.10	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.6	35.6	< 0.005	< 0.005	0.06	36.2



Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.9
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.02	17.5

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.84	5.05	0.01	0.15	—	0.15	0.14	—	0.14	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.92	< 0.005	0.03	—	0.03	0.02	—	0.02	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.14	2.39	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	321	321	0.02	0.01	1.14	327
Vendor	0.02	0.01	0.47	0.17	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	340	340	0.01	0.05	0.84	357
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.32	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	1.87	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	284	284	0.02	0.01	0.03	289
Vendor	0.02	0.01	0.50	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	341	341	0.01	0.05	0.02	356
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.68	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.13	126
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.05	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.50

### 3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.75	0.69	13.4	16.5	0.03	0.52	—	0.52	0.47	—	0.47	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.69	13.4	16.5	0.03	0.52	—	0.52	0.47	—	0.47	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.24	4.76	5.83	0.01	0.18	—	0.18	0.16	—	0.16	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.87	1.06	< 0.005	0.03	—	0.03	0.03	—	0.03	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.14	2.39	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	321	321	0.02	0.01	1.14	327
Vendor	0.02	0.01	0.47	0.17	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	340	340	0.01	0.05	0.84	357
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.32	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	1.87	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	284	284	0.02	0.01	0.03	289

Vendor	0.02	0.01	0.50	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	341	341	0.01	0.05	0.02	356
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.68	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.13	126
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.05	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.50

### 3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.76

### 3.10. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.51	8.23	10.6	0.01	0.35	—	0.35	0.32	—	0.32	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.24	1.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.23	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.76

### 3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architectural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.48	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.23	65.4
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.10	44.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.88	8.88	< 0.005	< 0.005	0.01	9.04



Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.36	6.36	< 0.005	< 0.005	0.01	6.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	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	0.00

### 3.12. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architect ural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.48	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.23	65.4
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.10	44.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.88	8.88	< 0.005	< 0.005	0.01	9.04
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.36	6.36	< 0.005	< 0.005	0.01	6.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	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	0.00

## 4. Operations Emissions Details

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

#### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	11/21/2023	6/30/2026	5.00	681	Home construction to start after site preparation and some grading
Paving	Paving	5/11/2024	7/26/2024	5.00	55.0	—
Architectural Coating	Architectural Coating	4/15/2026	6/30/2026	5.00	55.0	—

### 5.2. Off-Road Equipment

## 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Tier 3	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles



## 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	6.80	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

## 5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	6.80	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	596,261	198,754	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Paving	0.00	0.00	0.00	0.00	1.66

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
			164

Water Exposed Area	2	61%	61%
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### 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.66	0%

### 5.8. Construction Electricity Consumption and Emissions Factors

#### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

## 8. User Changes to Default Data

Screen	Justification
Land Use	151 single-family homes on 35.81 gross acres. Land use development to be evaluated, consistent with the project description and traffic impact analysis.
Construction: Construction Phases	Vertical home construction (site preparation, grading, and paving for internal streets included in a separate run). Adjusted schedule based on applicant-provided construction schedule: October 2023 (site preparation/grading) to June 2026 (end home construction)
Construction: Off-Road Equipment	Adjusted building construction usage hours to retain total CalEEMod HP usage hours (adjustment necessary because construction schedule reduced compared to the default).
Construction: Trips and VMT	Additional haul, vendor, and onsite truck trips added to account for miscellaneous construction trips and to present a conservative estimate of emissions.
Operations: Vehicle Data	Project-specific trip generation, consistent with the traffic analysis

Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2024 operational year applied to single-family homes.
Operations: Hearths	SJVAPCD Rule 4901 Woodburning No woodburning fireplaces or wood stoves

# Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Level 3 Filters Mitigated) Custom Report

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5.7. Construction Paving

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project - Site Work and Internal Street Paving for the Entire Project Site (Level 3 Filters Mitigated)
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Asphalt Surfaces	6.37	Acre	6.37	0.00	—	—	510	Internal streets + an additional acre for frontage/offsite improvements
Other Asphalt Surfaces	30.4	Acre	30.4	0.00	94,090	—	—	Total project site gross acreage: 35.81 (5.37 + 30.44 = 35.81)

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.11	2.69	7.96	10.9	0.01	0.39	1.47	1.86	0.36	0.16	0.52	—	1,655	1,655	0.07	0.02	0.50	1,664
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.80	4.05	39.9	36.3	0.07	1.81	9.15	11.0	1.66	4.10	5.76	—	7,371	7,371	0.29	0.17	0.05	7,427
2024	4.33	3.63	35.3	31.2	0.07	1.46	5.24	6.70	1.34	1.63	2.98	—	7,358	7,358	0.29	0.16	0.05	7,413
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.85	0.72	7.10	6.24	0.01	0.31	1.27	1.58	0.28	0.50	0.78	—	1,184	1,184	0.05	0.02	0.11	1,191
2024	0.62	0.79	4.93	4.92	0.01	0.21	0.77	0.99	0.20	0.20	0.39	—	1,026	1,026	0.04	0.02	0.13	1,037

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.13	1.30	1.14	< 0.005	0.06	0.23	0.29	0.05	0.09	0.14	—	196	196	0.01	< 0.005	0.02	197
2024	0.11	0.14	0.90	0.90	< 0.005	0.04	0.14	0.18	0.04	0.04	0.07	—	170	170	0.01	< 0.005	0.02	171

### 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.11	2.69	7.96	10.9	0.01	0.14	1.47	1.60	0.13	0.16	0.29	—	1,655	1,655	0.07	0.02	0.50	1,664
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.80	4.05	39.9	36.3	0.07	0.31	9.15	9.42	0.28	4.10	4.35	—	7,371	7,371	0.29	0.17	0.05	7,427
2024	4.33	3.63	35.3	31.2	0.07	0.28	5.24	5.52	0.26	1.63	1.89	—	7,358	7,358	0.29	0.16	0.05	7,413
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.85	0.72	7.10	6.24	0.01	0.05	1.27	1.33	0.05	0.50	0.55	—	1,184	1,184	0.05	0.02	0.11	1,191
2024	0.62	0.79	4.93	4.92	0.01	0.05	0.77	0.82	0.05	0.20	0.24	—	1,026	1,026	0.04	0.02	0.13	1,033
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.13	1.30	1.14	< 0.005	0.01	0.23	0.24	0.01	0.09	0.10	—	196	196	0.01	< 0.005	0.02	197
2024	0.11	0.14	0.90	0.90	< 0.005	0.01	0.14	0.15	0.01	0.04	0.04	—	170	170	0.01	< 0.005	0.02	171

## 3. Construction Emissions Details

### 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
																		172

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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.32	3.27	2.92	< 0.005	0.15	—	0.15	0.14	—	0.14	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.60	0.53	< 0.005	0.03	—	0.03	0.02	—	0.02	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	0.78	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.4	97.4	0.01	< 0.005	0.01	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.31	8.31	< 0.005	< 0.005	0.02	8.45
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	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	0.00

### 3.2. Site Preparation (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	0.27	—	0.27	0.25	—	0.25	—	5,295	5,295	0.21	0.04	—	5,314

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Dust From Material Movement:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.32	3.27	2.92	< 0.005	0.02	—	0.02	0.02	—	0.02	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement:	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.60	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement:	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	0.78	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.4	97.4	0.01	< 0.005	0.01	99.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.31	8.31	< 0.005	< 0.005	0.02	8.45
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.64	3.64	< 0.005	< 0.005	< 0.005	3.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Hauling	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	0.00

### 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.72	3.13	0.01	0.16	—	0.16	0.15	—	0.15	—	659	659	0.03	0.01	—	661

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Dust From Material Movement:	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.08	0.07	0.68	0.57	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.11	0.11	0.09	0.89	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	0.01	0.01	113
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	0.03	0.01	0.85	0.19	0.01	0.01	0.15	0.17	0.01	0.04	0.05	—	610	610	0.01	0.10	0.04	639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.43	4.43	< 0.005	< 0.005	0.01	4.63
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.8	60.8	< 0.005	0.01	0.06	63.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77

Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6
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### 3.4. Grading (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	0.30	—	0.30	0.27	—	0.27	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.72	3.13	0.01	0.03	—	0.03	0.03	—	0.03	—	659	659	0.03	0.01	—	661
Dust From Material Movement:	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.68	0.57	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	109	109	< 0.005	< 0.005	—	109



Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.09	0.89	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	111	111	0.01	0.01	0.01	113
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	0.03	0.01	0.85	0.19	0.01	0.01	0.15	0.17	0.01	0.04	0.05	—	610	610	0.01	0.10	0.04	639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.43	4.43	< 0.005	< 0.005	0.01	4.63
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.8	60.8	< 0.005	0.01	0.06	63.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.6

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.62	3.19	0.01	0.15	—	0.15	0.14	—	0.14	—	697	697	0.03	0.01	—	700
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.66	0.58	< 0.005	0.03	—	0.03	0.03	—	0.03	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	111
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	0.03	0.01	0.82	0.19	< 0.005	0.01	0.15	0.17	0.01	0.04	0.05	—	600	600	0.01	0.09	0.04	628
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.62	4.62	< 0.005	< 0.005	0.01	4.84
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.3	63.3	< 0.005	0.01	0.06	66.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0

### 3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	0.27	—	0.27	0.24	—	0.24	—	6,598	6,598	0.27	0.05	—	6,621

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Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.62	3.19	0.01	0.03	—	0.03	0.03	—	0.03	—	697	697	0.03	0.01	—	700
Dust From Material Movement:	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.66	0.58	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.81	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	109	109	0.01	0.01	0.01	111
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	0.03	0.01	0.82	0.19	< 0.005	0.01	0.15	0.17	0.01	0.04	0.05	—	600	600	0.01	0.09	0.04	628182

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.62	4.62	< 0.005	< 0.005	0.01	4.84
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.3	63.3	< 0.005	0.01	0.06	66.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.01	11.0

### 3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57

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Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	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	0.00

### 3.8. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.14	—	0.14	0.13	—	0.13	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.14	—	0.14	0.13	—	0.13	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.02	—	0.02	0.02	—	0.02	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	< 0.005	45.8
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	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	0.00



## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2023	11/10/2023	5.00	30.0	—
Grading	Grading	11/11/2023	2/23/2024	5.00	75.0	—
Paving	Paving	2/24/2024	5/10/2024	5.00	55.0	—

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

#### 5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.80	HHDT,MHDT
Grading	Hauling	8.33	20.0	HHDT
Grading	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

### 5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.80	HHDT,MHDT
Grading	Hauling	8.33	20.0	HHDT
Grading	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

### 5.4. Vehicles

#### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	45.0	0.00	—
Grading	2,500	2,500	225	0.00	—
Paving	0.00	0.00	0.00	0.00	36.8

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	6.37	100%
Other Asphalt Surfaces	30.4	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005

## 8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Site work for the entire project site + 1 acre of offsite improvements Earliest construction start: October 2023

# Cameron Creek Project – Home Construction (Level 3 Filters Mitigated) Custom Report

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8. User Changes to Default Data



# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Cameron Creek Project – Home Construction (Level 3 Filters Mitigated)
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Single Family Housing	151	Dwelling Unit	35.8	294,450	99,667	—	510	151 single-family homes on 35.81 gross acres
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### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.60	21.4	28.4	0.04	0.95	3.30	4.25	0.87	0.41	1.28	—	5,275	5,275	0.21	0.16	3.51	5,332
2025	1.82	1.55	12.4	17.2	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,460	3,460	0.14	0.11	2.54	3,499
2026	1.93	35.2	12.6	18.5	0.03	0.45	3.24	3.69	0.41	0.40	0.81	—	3,690	3,690	0.15	0.12	2.65	3,733
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.00	1.70	14.0	17.2	0.03	0.62	1.80	2.41	0.57	0.24	0.81	—	3,452	3,452	0.15	0.12	0.07	3,489
2024	1.91	1.61	13.3	16.9	0.03	0.56	1.80	2.35	0.51	0.24	0.75	—	3,438	3,438	0.14	0.11	0.07	3,475
2025	1.78	1.51	12.4	16.6	0.03	0.48	1.80	2.28	0.44	0.24	0.69	—	3,423	3,423	0.14	0.11	0.07	3,460
2026	1.69	1.42	11.7	16.4	0.03	0.42	1.80	2.22	0.39	0.24	0.63	—	3,407	3,407	0.14	0.11	0.06	3,444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.14	1.12	1.38	< 0.005	0.05	0.14	0.19	0.05	0.02	0.06	—	278	278	0.01	0.01	0.10	281

2024	1.54	1.30	10.8	13.8	0.02	0.46	1.51	1.97	0.42	0.20	0.62	—	2,740	2,740	0.11	0.09	0.88	2,770
2025	1.28	1.08	8.86	11.9	0.02	0.34	1.28	1.62	0.32	0.17	0.49	—	2,453	2,453	0.10	0.08	0.78	2,479
2026	0.63	5.58	4.29	6.06	0.01	0.15	0.85	1.01	0.14	0.11	0.25	—	1,247	1,247	0.05	0.04	0.38	1,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.21	0.25	< 0.005	0.01	0.03	0.04	0.01	< 0.005	0.01	—	46.0	46.0	< 0.005	< 0.005	0.02	46.5
2024	0.28	0.24	1.96	2.51	< 0.005	0.08	0.28	0.36	0.08	0.04	0.11	—	454	454	0.02	0.01	0.15	459
2025	0.23	0.20	1.62	2.18	< 0.005	0.06	0.23	0.30	0.06	0.03	0.09	—	406	406	0.02	0.01	0.13	410
2026	0.11	1.02	0.78	1.11	< 0.005	0.03	0.16	0.18	0.03	0.02	0.05	—	206	206	0.01	0.01	0.06	209

### 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.60	21.4	28.4	0.04	0.31	3.30	3.61	0.28	0.41	0.69	—	5,275	5,275	0.21	0.16	3.51	5,332
2025	1.82	1.55	12.4	17.2	0.03	0.15	1.80	1.95	0.14	0.24	0.38	—	3,460	3,460	0.14	0.11	2.54	3,499
2026	1.93	35.2	12.6	18.5	0.03	0.16	3.24	3.40	0.14	0.40	0.54	—	3,690	3,690	0.15	0.12	2.65	3,733
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.00	1.70	14.0	17.2	0.03	0.18	1.80	1.98	0.17	0.24	0.41	—	3,452	3,452	0.15	0.12	0.07	3,489
2024	1.91	1.61	13.3	16.9	0.03	0.17	1.80	1.96	0.15	0.24	0.39	—	3,438	3,438	0.14	0.11	0.07	3,475
2025	1.78	1.51	12.4	16.6	0.03	0.15	1.80	1.95	0.14	0.24	0.38	—	3,423	3,423	0.14	0.11	0.07	3,460
2026	1.69	1.42	11.7	16.4	0.03	0.13	1.80	1.93	0.12	0.24	0.36	—	3,407	3,407	0.14	0.11	0.06	3,444
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.14	1.12	1.38	< 0.005	0.01	0.14	0.16	0.01	0.02	0.03	—	278	278	0.01	0.01	0.10	281
2024	1.54	1.30	10.8	13.8	0.02	0.14	1.51	1.65	0.13	0.20	0.33	—	2,740	2,740	0.11	0.09	0.88	2,770

2025	1.28	1.08	8.86	11.9	0.02	0.11	1.28	1.39	0.10	0.17	0.27	—	2,453	2,453	0.10	0.08	0.78	2,479
2026	0.63	5.58	4.29	6.06	0.01	0.05	0.85	0.90	0.05	0.11	0.16	—	1,247	1,247	0.05	0.04	0.38	1,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.21	0.25	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	0.01	—	46.0	46.0	< 0.005	< 0.005	0.02	46.5
2024	0.28	0.24	1.96	2.51	< 0.005	0.03	0.28	0.30	0.02	0.04	0.06	—	454	454	0.02	0.01	0.15	459
2025	0.23	0.20	1.62	2.18	< 0.005	0.02	0.23	0.25	0.02	0.03	0.05	—	406	406	0.02	0.01	0.13	410
2026	0.11	1.02	0.78	1.11	< 0.005	0.01	0.16	0.16	0.01	0.02	0.03	—	206	206	0.01	0.01	0.06	209

### 3. Construction Emissions Details

#### 3.1. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	13.0	14.5	0.03	0.61	—	0.61	0.56	—	0.56	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.16	< 0.005	0.05	—	0.05	0.04	—	0.04	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.25	2.42	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	303	303	0.03	0.02	0.04	308
Vendor	0.03	0.01	0.57	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	358	358	0.01	0.05	0.02	374
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	< 0.005	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.05	25.6
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.0
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.24
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.97
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

### 3.2. Building Construction (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	13.0	14.5	0.03	0.17	—	0.17	0.16	—	0.16	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.25	2.42	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	303	303	0.03	0.02	0.04	308
Vendor	0.03	0.01	0.57	0.21	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	358	358	0.01	0.05	0.02	374
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	< 0.005	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.05	25.6
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.7	28.7	< 0.005	< 0.005	0.03	30.0
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.24
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.75	4.75	< 0.005	< 0.005	0.01	4.97
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

### 3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	0.95	8.84	10.3	0.02	0.39	—	0.39	0.36	—	0.36	—	1,889	1,889	0.08	0.02	—	1,895

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Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.89	< 0.005	0.07	—	0.07	0.07	—	0.07	—	313	313	0.01	< 0.005	—	314
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.31	0.18	2.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	335	335	0.02	0.01	1.37	341
Vendor	0.02	0.02	0.51	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.94	370
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.22	2.21	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	296	296	0.03	0.01	0.04	301
Vendor	0.02	0.01	0.55	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.02	369
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.14	1.64	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	220	220	0.02	0.01	0.42	224
Vendor	0.02	0.01	0.38	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	253	253	0.01	0.04	0.29	265
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.11	108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.8
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9



### 3.4. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.16	—	0.16	0.14	—	0.14	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.16	—	0.16	0.14	—	0.14	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	0.95	8.84	10.3	0.02	0.11	—	0.11	0.10	—	0.10	—	1,889	1,889	0.08	0.02	—	1,895
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.89	< 0.005	0.02	—	0.02	0.02	—	0.02	—	313	313	0.01	< 0.005	—	314
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.31	0.18	2.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	335	335	0.02	0.01	1.37	341
Vendor	0.02	0.02	0.51	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.94	370
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.22	2.21	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	296	296	0.03	0.01	0.04	301
Vendor	0.02	0.01	0.55	0.19	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	353	353	0.01	0.05	0.02	369
Hauling	0.01	< 0.005	0.20	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.20	0.14	1.64	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	220	220	0.02	0.01	0.42	224
Vendor	0.02	0.01	0.38	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	253	253	0.01	0.04	0.29	265
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.11	108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	0.07	37.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	0.05	43.8
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	8.21	10.2	0.02	0.34	—	0.34	0.31	—	0.31	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.87	< 0.005	0.06	—	0.06	0.06	—	0.06	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.17	2.59	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	328	328	0.02	0.01	1.25	334
Vendor	0.02	0.01	0.49	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.94	363
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.34	148
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.20	2.03	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	290	290	0.02	0.01	0.03	295

Vendor	0.02	0.01	0.52	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.02	363
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.13	1.50	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	215	215	0.02	0.01	0.39	219
Vendor	0.02	0.01	0.36	0.13	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.29	259
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.10	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.6	35.6	< 0.005	< 0.005	0.06	36.2
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.9
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.02	17.5

### 3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.14	—	0.14	0.13	—	0.13	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.14	—	0.14	0.13	—	0.13	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43

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Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	8.21	10.2	0.02	0.10	—	0.10	0.09	—	0.09	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.87	< 0.005	0.02	—	0.02	0.02	—	0.02	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.29	0.17	2.59	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	328	328	0.02	0.01	1.25	334
Vendor	0.02	0.01	0.49	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.94	363
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.34	148
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.20	2.03	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	290	290	0.02	0.01	0.03	295
Vendor	0.02	0.01	0.52	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	347	347	0.01	0.05	0.02	363
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.01	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.13	1.50	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	215	215	0.02	0.01	0.39	219
Vendor	0.02	0.01	0.36	0.13	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	248	248	0.01	0.04	0.29	259
Hauling	< 0.005	< 0.005	0.13	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	101	101	< 0.005	0.02	0.10	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.27	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	35.6	35.6	< 0.005	< 0.005	0.06	36.2

Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.9
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.02	17.5

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.84	5.05	0.01	0.15	—	0.15	0.14	—	0.14	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.92	< 0.005	0.03	—	0.03	0.02	—	0.02	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.14	2.39	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	321	321	0.02	0.01	1.14	327
Vendor	0.02	0.01	0.47	0.17	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	340	340	0.01	0.05	0.84	357
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.32	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	1.87	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	284	284	0.02	0.01	0.03	289
Vendor	0.02	0.01	0.50	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	341	341	0.01	0.05	0.02	356
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.68	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.13	126
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.05	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.50

### 3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.12	—	0.12	0.11	—	0.11	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.12	—	0.12	0.11	—	0.11	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.84	5.05	0.01	0.04	—	0.04	0.04	—	0.04	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.92	< 0.005	0.01	—	0.01	0.01	—	0.01	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.14	2.39	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	321	321	0.02	0.01	1.14	327
Vendor	0.02	0.01	0.47	0.17	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	340	340	0.01	0.05	0.84	357
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.32	145
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	1.87	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	284	284	0.02	0.01	0.03	289



Vendor	0.02	0.01	0.50	0.18	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	341	341	0.01	0.05	0.02	356
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	138	138	< 0.005	0.02	0.01	145
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.68	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
Vendor	0.01	< 0.005	0.17	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.13	126
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.05	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.50

### 3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.76

### 3.10. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.14	—	0.14	0.13	—	0.13	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.02	—	0.02	0.02	—	0.02	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.05	0.78	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	92.5	92.5	0.01	< 0.005	0.38	94.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.7	43.7	< 0.005	0.01	0.12	45.8
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	< 0.005	0.02	0.34	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.59	6.59	< 0.005	< 0.005	0.01	6.90
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.7	21.7	< 0.005	< 0.005	0.02	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.12	2.12	< 0.005	< 0.005	< 0.005	2.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.59	3.59	< 0.005	< 0.005	< 0.005	3.76

### 3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architectural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.48	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.23	65.4
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.10	44.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.88	8.88	< 0.005	< 0.005	0.01	9.04

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.36	6.36	< 0.005	< 0.005	0.01	6.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	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	0.00

### 3.12. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architect ural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architect ural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.48	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.23	65.4
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.10	44.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.88	8.88	< 0.005	< 0.005	0.01	9.04
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.36	6.36	< 0.005	< 0.005	0.01	6.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.50
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	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	0.00

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	11/21/2023	6/30/2026	5.00	681	Home construction to start after site preparation and some grading
Paving	Paving	5/11/2024	7/26/2024	5.00	55.0	—
Architectural Coating	Architectural Coating	4/15/2026	6/30/2026	5.00	55.0	—

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

#### 5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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Building Construction	Cranes	Diesel	Average	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	6.80	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	6.80	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

### 5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	6.80	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	2.00	6.80	HHDT,MHDT
Paving	Hauling	2.00	20.0	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	596,261	198,754	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Paving	0.00	0.00	0.00	0.00	1.66

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.66	0%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

## 8. User Changes to Default Data

Screen	Justification
Land Use	151 single-family homes on 35.81 gross acres. Land use development to be evaluated, consistent with the project description and traffic impact analysis.
Construction: Construction Phases	Vertical home construction (site preparation, grading, and paving for internal streets included in a separate run). Adjusted schedule based on applicant-provided construction schedule: October 2023 (site preparation/grading) to June 2026 (end home construction)
Construction: Off-Road Equipment	Adjusted building construction usage hours to retain total CalEEMod HP usage hours (adjustment necessary because construction schedule reduced compared to the default).
Construction: Trips and VMT	Additional haul, vendor, and onsite truck trips added to account for miscellaneous construction trips and to present a conservative estimate of emissions.
Operations: Vehicle Data	Project-specific trip generation, consistent with the traffic analysis
Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2024 operational year applied to single-family homes.
Operations: Hearths	SJVAPCD Rule 4901 Woodburning No woodburning fireplaces or wood stoves

# Site Work and Internal Street Paving for the Entire Project Site (Unmitigated) - Localized Analysis Custom Report

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## 8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Site Work and Internal Street Paving for the Entire Project Site (Unmitigated) - Localized Analysis
Construction Start Date	10/2/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Asphalt Surfaces	6.37	Acre	6.37	0.00	—	—	510	Internal streets + an additional acre for frontage/offsite improvements
Other Asphalt Surfaces	30.4	Acre	30.4	0.00	94,090	—	—	Total project site gross acreage: 35.81 (5.37 + 30.44 = 35.81)

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.10	2.69	7.89	10.3	0.01	0.39	1.38	1.77	0.36	0.14	0.50	—	1,533	1,533	0.07	0.02	0.04	1,539
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.79	4.03	39.8	35.8	0.06	1.81	9.05	10.9	1.66	4.08	5.74	—	6,653	6,653	0.28	0.06	< 0.005	6,678
2024	4.29	3.61	34.5	30.7	0.06	1.45	4.98	6.42	1.33	1.57	2.90	—	6,652	6,652	0.28	0.06	< 0.005	6,677
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.85	0.71	7.02	6.12	0.01	0.31	1.24	1.55	0.28	0.49	0.77	—	1,101	1,101	0.05	0.01	0.01	1,105
2024	0.62	0.79	4.84	4.78	0.01	0.21	0.73	0.95	0.19	0.19	0.38	—	934	934	0.04	0.01	0.01	937
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.15	0.13	1.28	1.12	< 0.005	0.06	0.23	0.28	0.05	0.09	0.14	—	182	182	0.01	< 0.005	< 0.005	183

2024	0.11	0.14	0.88	0.87	< 0.005	0.04	0.13	0.17	0.04	0.03	0.07	—	155	155	0.01	< 0.005	< 0.005	155
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### 3. Construction Emissions Details

#### 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.32	3.27	2.92	< 0.005	0.15	—	0.15	0.14	—	0.14	—	435	435	0.02	< 0.005	—	437
Dust From Material Movement:	—	—	—	—	—	—	0.63	0.63	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	— 228

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Off-Road Equipment	0.07	0.06	0.60	0.53	< 0.005	0.03	—	0.03	0.02	—	0.02	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.02	0.33	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.64	9.64	0.01	< 0.005	< 0.005	10.4
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.44	5.44	< 0.005	< 0.005	< 0.005	5.70
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.86
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.47
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.08
Hauling	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	0.00

### 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.72	3.13	0.01	0.16	—	0.16	0.15	—	0.15	—	659	659	0.03	0.01	—	661
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.14	0.14	< 0.005	0.01	0.01	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.77
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.68	0.57	< 0.005	0.03	—	0.03	0.03	—	0.03	—	109	109	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.03	0.37	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.0	11.0	0.01	< 0.005	< 0.005	11.9
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.44	5.44	< 0.005	< 0.005	< 0.005	5.70
Hauling	0.01	0.01	0.15	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.6	30.6	< 0.005	< 0.005	< 0.005	32.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.19
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.57
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.04	3.04	< 0.005	< 0.005	< 0.005	3.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.53

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

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Dust From Material Movement:	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.44	0.37	3.62	3.19	0.01	0.15	—	0.15	0.14	—	0.14	—	697	697	0.03	0.01	—	700
Dust From Material Movement:	—	—	—	—	—	—	0.38	0.38	—	0.15	0.15	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.01	0.01	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.08	0.07	0.66	0.58	< 0.005	0.03	—	0.03	0.03	—	0.03	—	115	115	< 0.005	< 0.005	—	116
Dust From Material Movement:	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.09	0.09	0.03	0.34	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	0.01	< 0.005	< 0.005	11.5
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.37	5.37	< 0.005	< 0.005	< 0.005	5.62
Hauling	0.01	0.01	0.15	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.1	30.1	< 0.005	< 0.005	< 0.005	31.532

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.23
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.59
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.16	3.16	< 0.005	< 0.005	< 0.005	3.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.55

### 3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57

Site Work and Internal Street Paving for the Entire Project Site (Unmitigated) - Localized Analysis Custom Report, 6/17/2023

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.20	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	9.19
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.58
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.02	0.26	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.07	8.07	< 0.005	< 0.005	< 0.005	8.64
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.37	5.37	< 0.005	< 0.005	< 0.005	5.62
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.32
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.84
Hauling	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	0.00



Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	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	0.00

## 4. Operations Emissions Details

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

#### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2023	11/10/2023	5.00	30.0	—
Grading	Grading	11/11/2023	2/23/2024	5.00	75.0	—
Paving	Paving	2/24/2024	5/10/2024	5.00	55.0	—

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	0.50	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	0.50	HHDT,MHDT
Site Preparation	Hauling	0.00	0.50	HHDT
Site Preparation	Onsite truck	2.00	0.50	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	0.50	LDA,LDT1,LDT2
Grading	Vendor	2.00	0.50	HHDT,MHDT
Grading	Hauling	8.33	0.50	HHDT
Grading	Onsite truck	2.00	0.50	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	0.50	LDA,LDT1,LDT2
Paving	Vendor	2.00	0.50	HHDT,MHDT
Paving	Hauling	0.00	0.50	HHDT
Paving	Onsite truck	2.00	0.50	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	45.0	0.00	—
Grading	2,500	2,500	225	0.00	—
Paving	0.00	0.00	0.00	0.00	36.8

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	6.37	100%
Other Asphalt Surfaces	30.4	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)	240
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## 8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Site work for the entire project site + 1 acre of offsite improvements Earliest construction start: October 2023
Construction: Trips and VMT	Trip lengths updated to 0.5 mile to account for on-site and localized emissions from construction vehicles.

# Home Construction (Unmitigated) + Operations - Localized Analysis Custom Report

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Home Construction (Unmitigated) + Operations - Localized Analysis
Construction Start Date	10/2/2023
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Single Family Housing	151	Dwelling Unit	35.8	294,450	99,667	—	510	151 single-family homes on 35.81 gross acres
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### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.99	2.55	20.6	25.6	0.04	0.94	2.78	3.72	0.86	0.28	1.15	—	4,266	4,266	0.19	0.05	0.23	4,286
2025	1.77	1.52	11.8	15.2	0.03	0.48	1.40	1.88	0.44	0.14	0.58	—	2,724	2,724	0.12	0.04	0.17	2,738
2026	1.88	35.1	12.1	16.3	0.03	0.44	2.78	3.22	0.41	0.28	0.69	—	2,874	2,874	0.13	0.04	0.18	2,889
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.94	1.65	13.3	15.7	0.03	0.61	1.40	2.01	0.56	0.14	0.70	—	2,726	2,726	0.13	0.04	< 0.005	2,740
2024	1.85	1.58	12.7	15.5	0.03	0.55	1.40	1.95	0.50	0.14	0.65	—	2,724	2,724	0.13	0.04	< 0.005	2,738
2025	1.73	1.48	11.8	15.4	0.03	0.48	1.40	1.88	0.44	0.14	0.58	—	2,723	2,723	0.13	0.04	< 0.005	2,737
2026	1.64	1.40	11.2	15.2	0.03	0.42	1.40	1.82	0.38	0.14	0.53	—	2,721	2,721	0.13	0.04	< 0.005	2,734
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.16	0.13	1.07	1.25	< 0.005	0.05	0.11	0.16	0.04	0.01	0.06	—	219	219	0.01	< 0.005	0.01	220
2024	1.49	1.27	10.3	12.6	0.02	0.45	1.21	1.66	0.42	0.12	0.54	—	2,183	2,183	0.10	0.03	0.06	2,194
2025	1.24	1.06	8.44	10.9	0.02	0.34	1.00	1.34	0.31	0.10	0.42	—	1,945	1,945	0.09	0.03	0.05	1,955

2026	0.61	5.57	4.09	5.55	0.01	0.15	0.70	0.85	0.14	0.07	0.21	—	987	987	0.05	0.01	0.03	992
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.20	0.23	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	36.2	36.2	< 0.005	< 0.005	< 0.005	36.4
2024	0.27	0.23	1.87	2.30	< 0.005	0.08	0.22	0.30	0.08	0.02	0.10	—	361	361	0.02	< 0.005	0.01	363
2025	0.23	0.19	1.54	1.99	< 0.005	0.06	0.18	0.24	0.06	0.02	0.08	—	322	322	0.01	< 0.005	0.01	324
2026	0.11	1.02	0.75	1.01	< 0.005	0.03	0.13	0.16	0.03	0.01	0.04	—	163	163	0.01	< 0.005	< 0.005	164

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.91	5.76	1.83	14.7	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	916	916	0.28	0.15	2.49	969
Area	0.97	7.66	1.34	9.07	0.01	0.10	—	0.10	0.11	—	0.11	0.00	1,613	1,613	0.03	< 0.005	—	1,614
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	7.05	13.5	4.56	24.3	0.03	0.23	0.52	0.75	0.23	0.13	0.36	94.4	5,998	6,093	10.0	0.20	4.59	6,408
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.10	4.90	2.08	19.0	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	864	864	0.37	0.16	0.06	922
Area	0.15	6.88	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11

Total	5.40	11.9	4.73	20.1	0.03	0.23	0.52	0.75	0.22	0.13	0.36	94.4	5,924	6,018	10.1	0.21	2.17	6,337
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.20	5.03	1.93	16.2	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	876	876	0.32	0.15	1.07	931
Area	0.44	7.21	0.32	4.33	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	368	368	0.01	< 0.005	—	369
Energy	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	3,433	3,433	0.28	0.02	—	3,445
Water	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Waste	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	5.80	12.3	3.65	21.1	0.02	0.15	0.52	0.67	0.15	0.13	0.28	94.4	4,714	4,809	10.1	0.20	3.18	5,124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.95	0.92	0.35	2.95	< 0.005	< 0.005	0.09	0.10	< 0.005	0.02	0.03	—	145	145	0.05	0.03	0.18	154
Area	0.08	1.32	0.06	0.79	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	61.0	61.0	< 0.005	< 0.005	—	61.1
Energy	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	568	568	0.05	< 0.005	—	570
Water	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9
Waste	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.06	2.25	0.67	3.85	< 0.005	0.03	0.09	0.12	0.03	0.02	0.05	15.6	780	796	1.67	0.03	0.53	848

### 3. Construction Emissions Details

#### 3.1. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



## Home Construction (Unmitigated) + Operations - Localized Analysis Custom Report, 6/17/2023

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	1.38	13.0	14.5	0.03	0.61	—	0.61	0.56	—	0.56	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.16	< 0.005	0.05	—	0.05	0.04	—	0.04	—	212	212	0.01	< 0.005	—	212
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.2
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.26	0.07	1.01	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	29.9	29.9	0.02	0.01	< 0.005	32.4
Vendor	0.01	0.01	0.21	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.9	43.9	< 0.005	0.01	< 0.005	46.0
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.60
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.51	3.51	< 0.005	< 0.005	< 0.005	3.68
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.61
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10

### 3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.58	1.32	12.3	14.4	0.03	0.55	—	0.55	0.50	—	0.50	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	0.95	8.84	10.3	0.02	0.39	—	0.39	0.36	—	0.36	—	1,889	1,889	0.08	0.02	—	1,895
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.89	< 0.005	0.07	—	0.07	0.07	—	0.07	—	313	313	0.01	< 0.005	—	314

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.28	0.06	0.72	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	31.3	31.3	0.01	0.01	0.09	33.3
Vendor	0.01	0.01	0.20	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.07	45.1
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.24	0.07	0.94	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	29.3	29.3	0.02	0.01	< 0.005	31.3
Vendor	0.01	0.01	0.21	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.3	43.3	< 0.005	0.01	< 0.005	45.3
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.22	7.22	< 0.005	< 0.005	< 0.005	7.57
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.18	0.04	0.57	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	21.3	21.3	0.01	< 0.005	0.03	22.7
Vendor	0.01	0.01	0.14	0.09	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	30.9	30.9	< 0.005	< 0.005	0.02	32.4
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.14	5.14	< 0.005	< 0.005	< 0.005	5.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.52	3.52	< 0.005	< 0.005	< 0.005	3.76
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.11	5.11	< 0.005	< 0.005	< 0.005	5.36
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48	1.24	11.5	14.3	0.03	0.48	—	0.48	0.44	—	0.44	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.06	0.89	8.21	10.2	0.02	0.34	—	0.34	0.31	—	0.31	—	1,884	1,884	0.08	0.02	—	1,890
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.98	0.98	< 0.005	0.10	0.10	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.87	< 0.005	0.06	—	0.06	0.06	—	0.06	—	312	312	0.01	< 0.005	—	313
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.18	0.18	< 0.005	0.02	0.02	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.27	0.05	0.67	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	30.6	30.6	0.01	0.01	0.08	32.6
Vendor	0.01	0.01	0.19	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.2	42.2	< 0.005	0.01	0.07	44.3
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.00	7.00	< 0.005	< 0.005	0.01	7.36

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.23	0.23	0.06	0.87	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	28.6	28.6	0.02	0.01	< 0.005	30.6
Vendor	0.01	0.01	0.20	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.6	42.6	< 0.005	0.01	< 0.005	44.6
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.08	7.08	< 0.005	< 0.005	< 0.005	7.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.17	0.04	0.53	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	20.7	20.7	0.01	< 0.005	0.03	22.2
Vendor	0.01	0.01	0.14	0.09	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	30.3	30.3	< 0.005	< 0.005	0.02	31.7
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	< 0.005	5.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.43	3.43	< 0.005	< 0.005	< 0.005	3.67
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.01	5.01	< 0.005	< 0.005	< 0.005	5.25
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.87

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	1.41	1.18	10.8	14.3	0.03	0.42	—	0.42	0.38	—	0.38	—	2,637	2,637	0.11	0.02	—	2,646
Onsite truck	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.42	3.84	5.05	0.01	0.15	—	0.15	0.14	—	0.14	—	934	934	0.04	0.01	—	937
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.49	0.49	< 0.005	0.05	0.05	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.92	< 0.005	0.03	—	0.03	0.02	—	0.02	—	155	155	0.01	< 0.005	—	155
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.25	0.05	0.62	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	29.9	29.9	0.01	0.01	0.07	31.9
Vendor	0.01	0.01	0.19	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.5	41.5	< 0.005	0.01	0.06	43.5
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.21	0.06	0.80	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	27.9	27.9	0.01	0.01	< 0.005	29.9
Vendor	0.01	0.01	0.20	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.9	41.9	< 0.005	0.01	< 0.005	43.8
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.95	6.95	< 0.005	< 0.005	< 0.005	7.29
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.24	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.01	10.7
Vendor	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.01	15.5

Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.66	1.66	< 0.005	< 0.005	< 0.005	1.78
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.56
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.43

### 3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	228	228	0.01	< 0.005	—	229
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.7	37.7	< 0.005	< 0.005	—	37.8

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.02	0.20	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.02	9.19
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.58
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.14	7.14	< 0.005	< 0.005	0.01	7.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.32
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.84
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19

### 3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



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Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	33.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	6.87	6.87	< 0.005	< 0.005	0.01	7.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Architectural Coatings	—	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.21	0.21	< 0.005	0.02	0.02	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.33	3.33	< 0.005	< 0.005	—	3.34
Architectural Coatings	—	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.98	5.98	< 0.005	< 0.005	0.01	6.38
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.14	5.14	< 0.005	< 0.005	0.01	5.39
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.86	0.86	< 0.005	< 0.005	< 0.005	0.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.81
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Hauling	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	0.00

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	5.91	5.76	1.83	14.7	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	916	916	0.28	0.15	2.49	969
Total	5.91	5.76	1.83	14.7	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	916	916	0.28	0.15	2.49	969
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	5.10	4.90	2.08	19.0	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	864	864	0.37	0.16	0.06	922
Total	5.10	4.90	2.08	19.0	0.01	0.01	0.52	0.53	0.01	0.13	0.14	—	864	864	0.37	0.16	0.06	922
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.95	0.92	0.35	2.95	< 0.005	< 0.005	0.09	0.10	< 0.005	0.02	0.03	—	145	145	0.05	0.03	0.18	154
Total	0.95	0.92	0.35	2.95	< 0.005	< 0.005	0.09	0.10	< 0.005	0.02	0.03	—	145	145	0.05	0.03	0.18	154

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,666	1,666	0.12	0.01	—	1,674
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.02	< 0.005	—	277
Total	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.02	< 0.005	—	277

#### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Total	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Total	0.16	0.08	1.39	0.59	0.01	0.11	—	0.11	0.11	—	0.11	—	1,767	1,767	0.16	< 0.005	—	1,772
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	293	293	0.03	< 0.005	—	293
Total	0.03	0.01	0.25	0.11	< 0.005	0.02	—	0.02	0.02	—	0.02	—	293	293	0.03	< 0.005	—	293

#### 4.3. Area Emissions by Source

##### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Consumer Products	—	6.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.83	0.78	0.08	8.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.9	22.9	< 0.005	< 0.005	—	23.0
Total	0.97	7.66	1.34	9.07	0.01	0.10	—	0.10	0.11	—	0.11	0.00	1,613	1,613	0.03	< 0.005	—	1,614
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Consumer Products	—	6.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.15	6.88	1.25	0.53	0.01	0.10	—	0.10	0.10	—	0.10	0.00	1,590	1,590	0.03	< 0.005	—	1,591
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	59.1	59.1	< 0.005	< 0.005	—	59.2
Consumer Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	0.07	0.01	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Total	0.08	1.32	0.06	0.79	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	61.0	61.0	< 0.005	< 0.005	—	61.1

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Total	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Total	—	—	—	—	—	—	—	—	—	—	—	12.3	36.7	49.0	1.27	0.03	—	89.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9
Total	—	—	—	—	—	—	—	—	—	—	—	2.04	6.08	8.12	0.21	0.01	—	14.9

### 4.5. Waste Emissions by Land Use

#### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Total	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Total	—	—	—	—	—	—	—	—	—	—	—	82.0	0.00	82.0	8.20	0.00	—	287
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5
Total	—	—	—	—	—	—	—	—	—	—	—	13.6	0.00	13.6	1.36	0.00	—	47.5

### 4.6. Refrigerant Emissions by Land Use

#### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
																		265

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.11	2.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

### 4.7. Offroad Emissions By Equipment Type

#### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 4.8. Stationary Emissions By Equipment Type

#### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 4.9. User Defined Emissions By Equipment Type

#### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	11/21/2023	6/30/2026	5.00	681	Home construction to start after site preparation and some grading

Paving	Paving	5/11/2024	7/26/2024	5.00	55.0	—
Architectural Coating	Architectural Coating	4/15/2026	6/30/2026	5.00	55.0	—

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.70	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.80	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.80	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.70	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.80	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	54.4	0.50	LDA,LDT1,LDT2
Building Construction	Vendor	16.1	0.50	HHDT,MHDT
Building Construction	Hauling	2.00	0.50	HHDT
Building Construction	Onsite truck	2.00	0.50	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	0.50	LDA,LDT1,LDT2
Paving	Vendor	2.00	0.50	HHDT,MHDT
Paving	Hauling	2.00	0.50	HHDT
Paving	Onsite truck	2.00	0.50	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	0.50	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	0.50	HHDT,MHDT
Architectural Coating	Hauling	0.00	0.50	HHDT
Architectural Coating	Onsite truck	2.00	0.50	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	596,261	198,754	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Paving	0.00	0.00	0.00	0.00	1.66

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
			272

Water Exposed Area	2	61%	61%
--------------------	---	-----	-----

### 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.66	0%

### 5.8. Construction Electricity Consumption and Emissions Factors

#### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	453	0.03	< 0.005
2024	0.00	453	0.03	< 0.005
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

### 5.9. Operational Mobile Sources

#### 5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	1,474	1,474	1,474	538,010	737	737	737	269,005

### 5.10. Operational Area Sources

#### 5.10.1. Hearths

##### 5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
-------------	----------------------

Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	76
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	76
Conventional Wood Stoves	0
Catalytic Wood Stoves	8
Non-Catalytic Wood Stoves	8
Pellet Wood Stoves	0

### 5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
596261.25	198,754	0.00	0.00	—

### 5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	1,341,856	453	0.0330	0.0040	5,513,161



## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	6,426,960	1,758,037

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	152	—

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
----------------	-----------	----------------	---------------	----------------	------------	-------------

### 5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
----------------	-----------	--------	--------------------------	------------------------------	------------------------------

## 5.17. User Defined

Equipment Type	Fuel Type
—	—

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

### 5.18.2. Sequestration

## 5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
-----------	--------	------------------------------	------------------------------

## 8. User Changes to Default Data

Screen	Justification
Land Use	151 single-family homes on 35.81 gross acres. Land use development to be evaluated, consistent with the project description and traffic impact analysis.
Construction: Construction Phases	Vertical home construction (site preparation, grading, and paving for internal streets included in a separate run). Adjusted schedule based on applicant-provided construction schedule: October 2023 (site preparation/grading) to June 2026 (end home construction)
Construction: Off-Road Equipment	Adjusted building construction usage hours to retain total CalEEMod HP usage hours (adjustment necessary because construction schedule reduced compared to the default).
Construction: Trips and VMT	Additional haul, vendor, and onsite truck trips added to account for miscellaneous construction trips and to present a conservative estimate of emissions. Trip lengths updated to 0.5 mile to account for on-site and localized emissions from construction vehicles.
Operations: Vehicle Data	Project-specific trip generation, consistent with the traffic analysis Trip lengths updated to 0.5 mile to account for on-site and localized emissions from mobile sources.
Operations: Fleet Mix	SJVAPCD-approved residential fleet mix for the 2024 operational year applied to single-family homes.
Operations: Hearths	SJVAPCD Rule 4901 Woodburning No woodburning fireplaces or wood stoves

# **ATTACHMENT B**

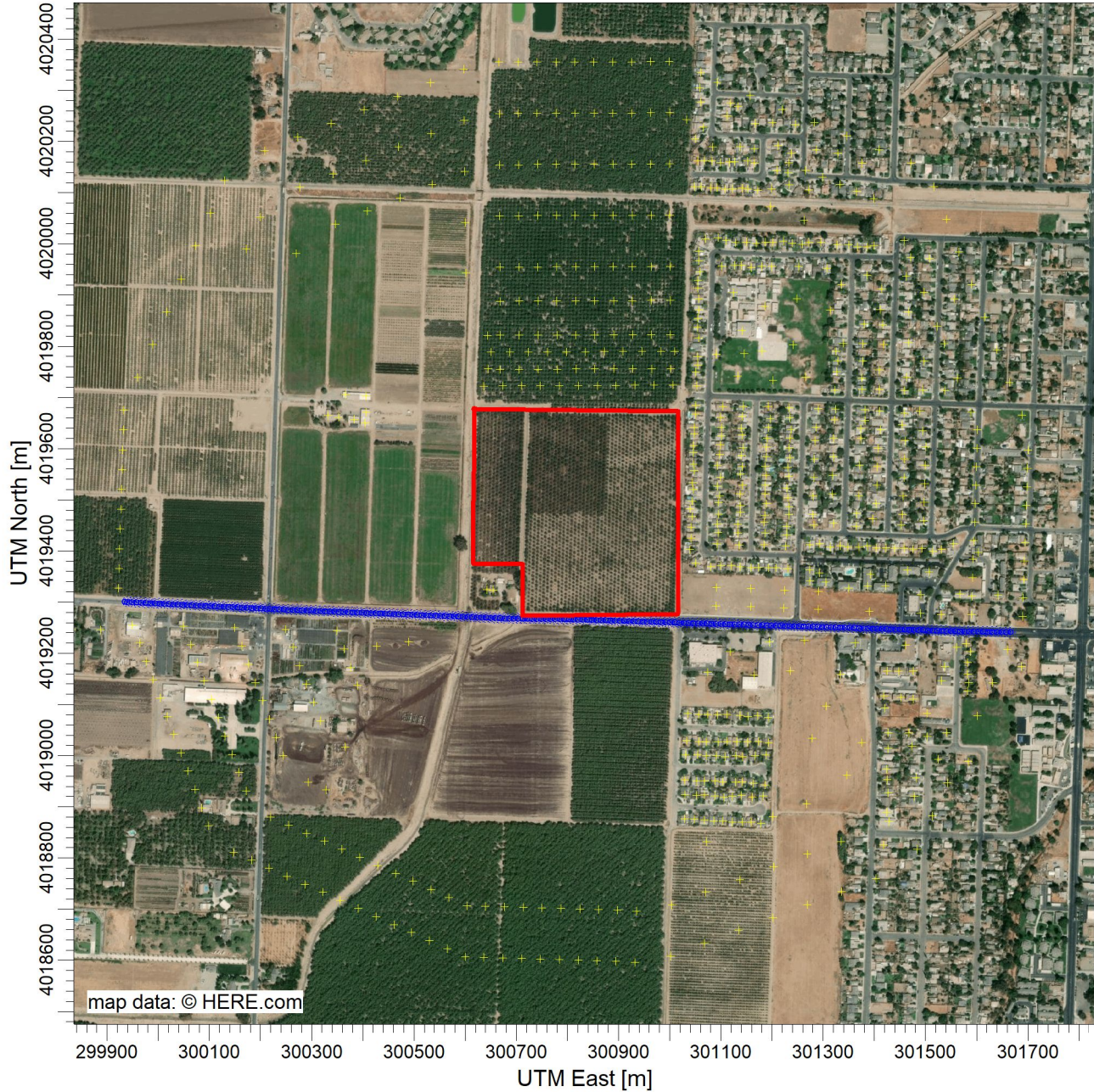
## **Construction Health Risk Assessment and Operational Health Risk Screening**

# **Health Risk Assessment**

## **General Parameters**

PROJECT TITLE:

**Graphical Representation of AERMOD Input  
Entire Construction Site – Offsite Receptor Scenario**



COMMENTS:

SOURCES:

**2**

COMPANY NAME:

RECEPTORS:

**714**

MODELER:

SCALE:

1:12,555

0  0.4 km

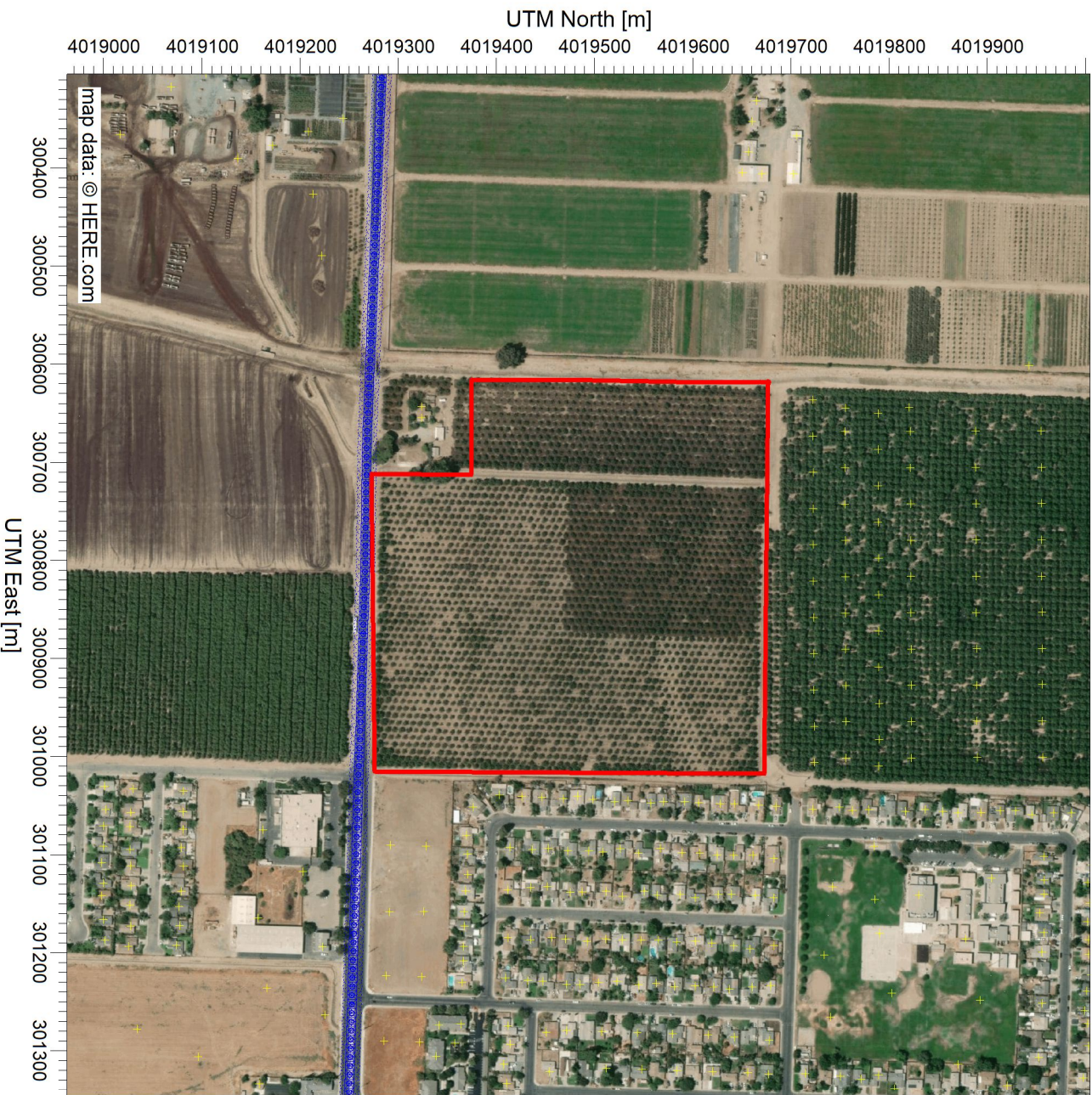
DATE:

**5/28/2023**

PROJECT NO.:



PROJECT TITLE:  
**Graphical Representation of AERMOD Input (Zoomed in Near Project Site)**  
**Entire Construction Site – Offsite Receptor Scenario**

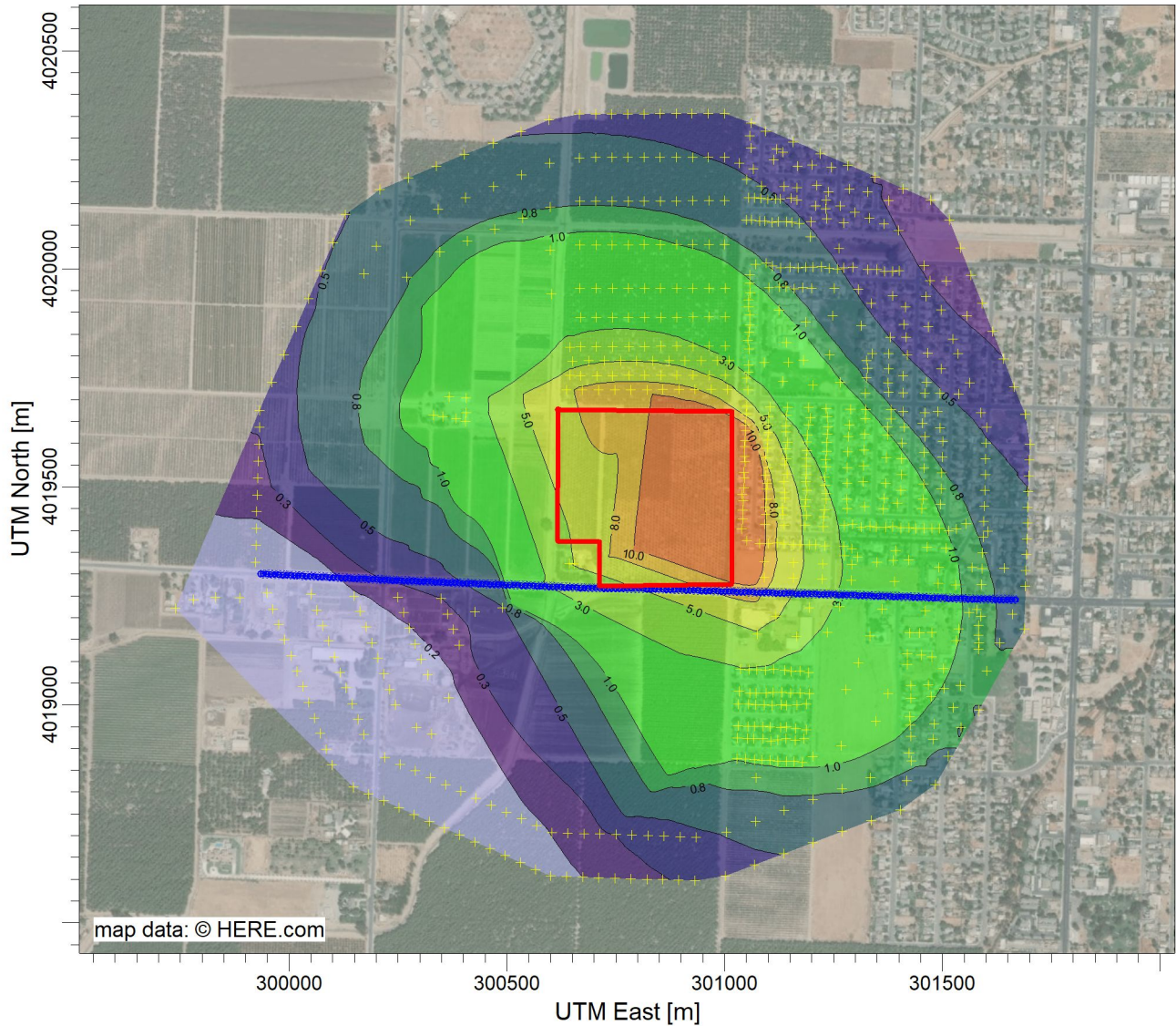


COMMENTS:		COMPANY NAME:	
SOURCES: <b>2</b>			
RECEPTORS: <b>714</b>		MODELER:	
SCALE: 1:6,554		PROJECT NO.:	
DATE: <b>5/28/2023</b>			



PROJECT TITLE:

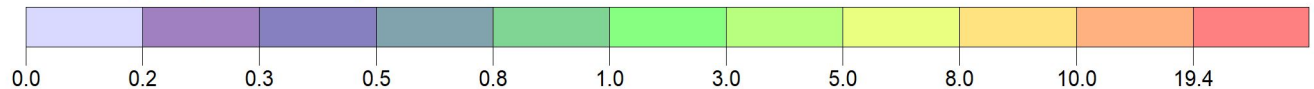
**Air Dispersion Trend – Construction Site**



PLOT FILE OF ANNUAL VALUES AVERAGED ACROSS 4 YEARS FOR SOURCE GROUP: SITE

ug/m<sup>3</sup>

Max: 19.4 [ug/m<sup>3</sup>] at (301039.20, 4019403.10)



COMMENTS:	SOURCES: <b>2</b>	COMPANY NAME:	
	RECEPTORS: <b>714</b>	MODELER:	
	OUTPUT TYPE: <b>Concentration</b>	SCALE: 1:15,825	
	MAX: <b>19.4 ug/m<sup>3</sup></b>	DATE: <b>5/28/2023</b>	PROJECT NO.:

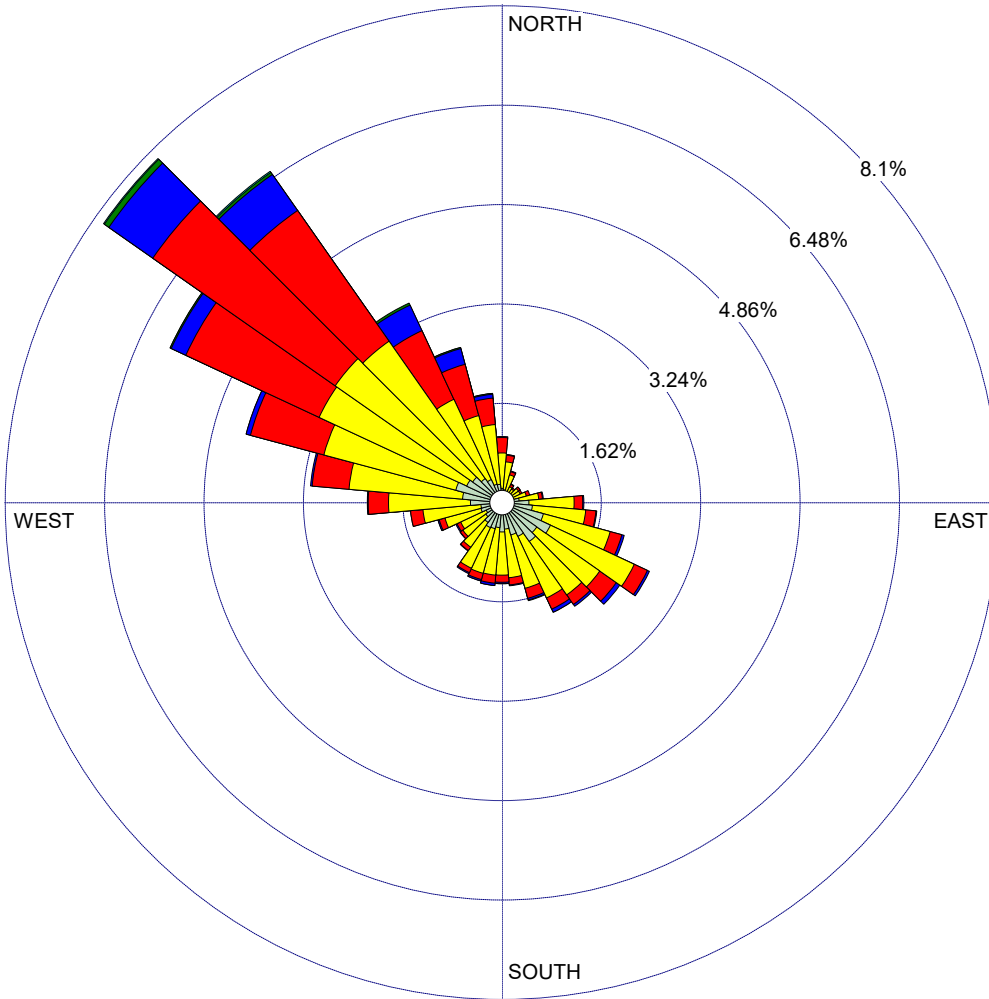


WIND ROSE PLOT:

**Wind Rose - Visalia Station (#93144) – Blowing From**

DISPLAY:

**Wind Speed  
Direction (blowing from)**



**WIND SPEED  
(Knots)**

- >= 21.58
- 17.11 - 21.58
- 11.08 - 17.11
- 7.00 - 11.08
- 4.08 - 7.00
- 0.97 - 4.08
- Calms: 27.71%

COMMENTS:

DATA PERIOD:

**Start Date: 1/1/2007 - 00:00  
End Date: 12/31/2010 - 23:59**

COMPANY NAME:

MODELER:

CALM WINDS:

**27.71%**

TOTAL COUNT:

**34417 hrs.**

AVG. WIND SPEED:

**4.39 Knots**

DATE:

**5/28/2023**

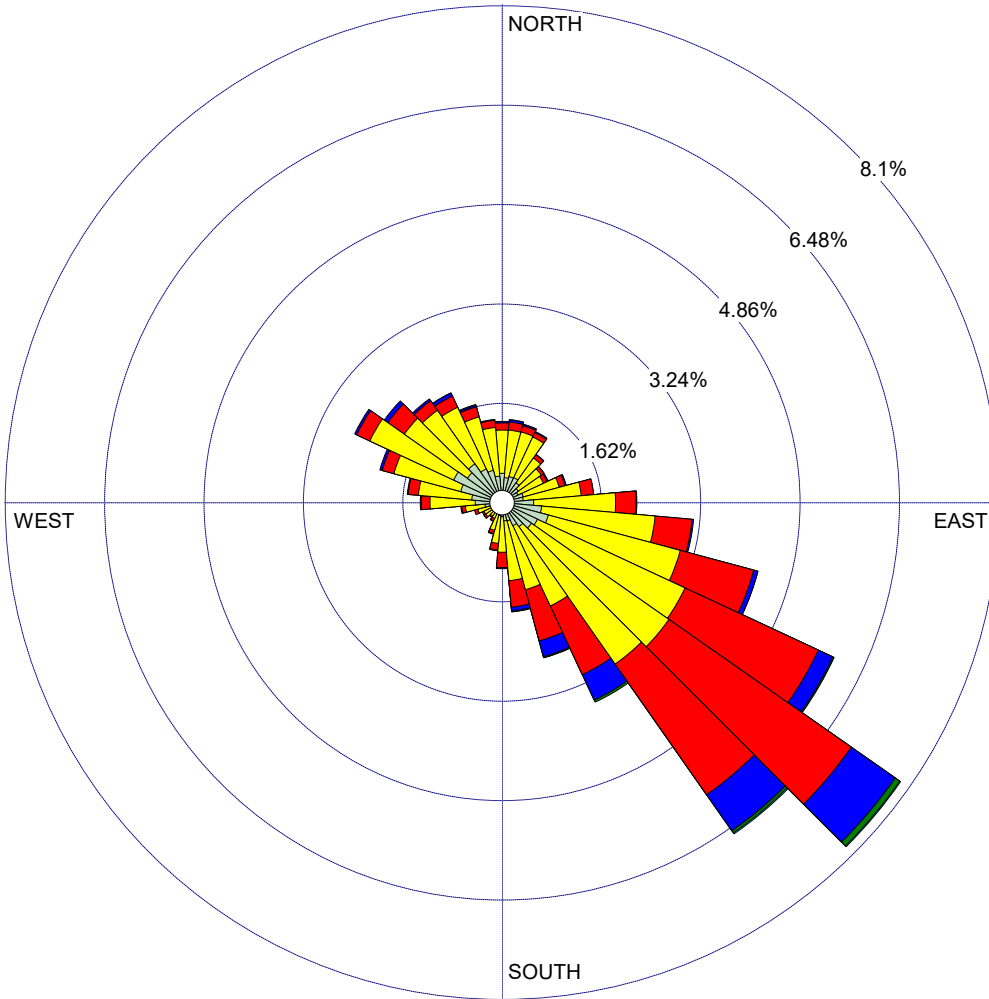
PROJECT NO.:

WIND ROSE PLOT:

**Wind Rose - Visalia Station (#93144) – Blowing To**

DISPLAY:

**Wind Speed  
Flow Vector (blowing to)**



**WIND SPEED  
(Knots)**

- >= 21.58
- 17.11 - 21.58
- 11.08 - 17.11
- 7.00 - 11.08
- 4.08 - 7.00
- 0.97 - 4.08
- Calms: 27.71%

COMMENTS:

DATA PERIOD:

**Start Date: 1/1/2007 - 00:00  
End Date: 12/31/2010 - 23:59**

COMPANY NAME:

MODELER:

CALM WINDS:

**27.71%**

TOTAL COUNT:

**34417 hrs.**

AVG. WIND SPEED:

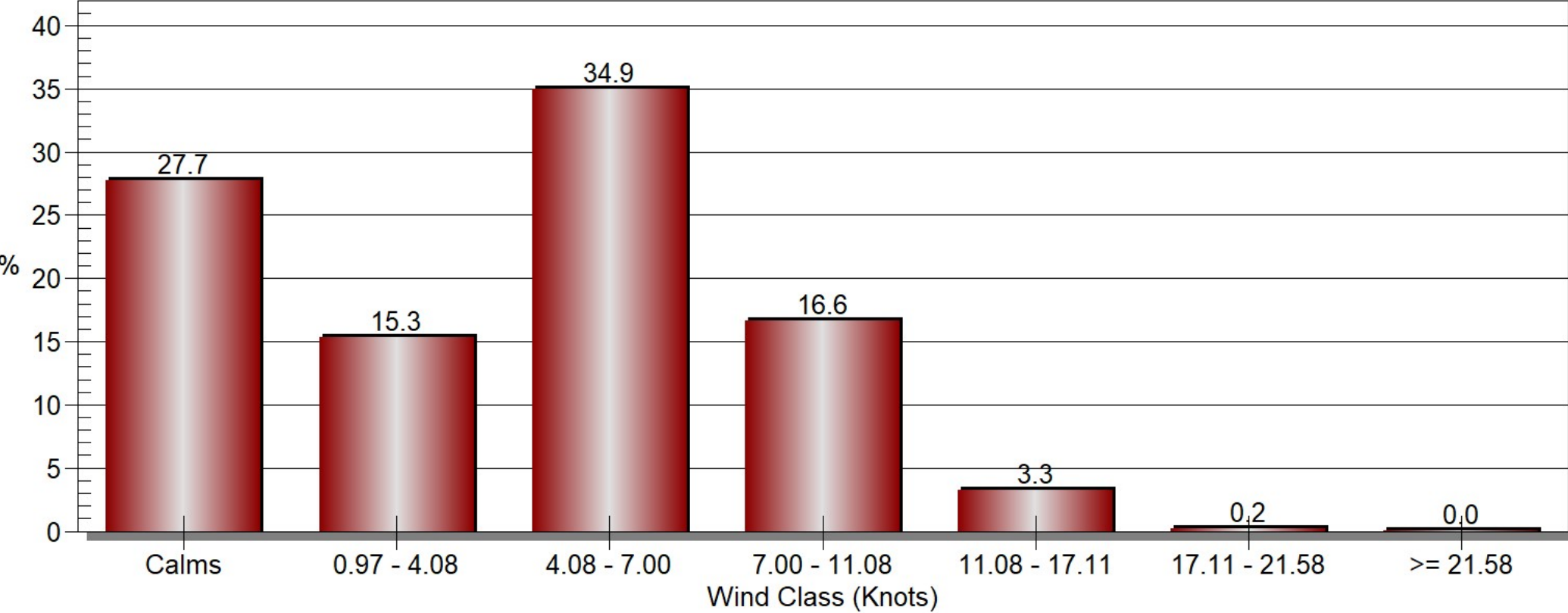
**4.39 Knots**

DATE:

**5/28/2023**

PROJECT NO.:

# Wind Class Frequency Distribution



# **Health Risk Assessment**

## **Unmitigated Construction**

## Cameron Creek Residential Project (Unmitigated Construction)

### Estimation of Annual Onsite Construction Emissions

Start of Construction	10/2/2023	
End of Construction	6/30/2026	<b>Total</b>
Number of Days	1,002	1,002
Number of Hours	24,048	24,048

**Size of the construction area source: 150,300.1 sq-meters**

Run	Year	On-site Construction Activity	Unmitigated On-site DPM (pounds)
Site Work	2023	On-site Site Preparation	54.1523
Site Work	2023	On-site Grading	58.0787
Site Work	2024	On-site Grading	55.8535
Site Work	2024	Paving	21.4063
Home Construction	2023	On-site Building Construction 2023	17.8075
Home Construction	2024	On-site Building Construction 2024	143.1424
Home Construction	2024	On-site Paving 2024	21.4063
Home Construction	2025	On-site Building Construction 2025	123.8457
Home Construction	2026	On-site Building Construction 2026	53.8500
Home Construction	2026	On-site Architectural Coating	1.2734
<b>Total Unmitigated DPM (On-site)</b>			5.508E+02 pounds
<b>Factor in AERMOD to Account for 5 days per week/8 hours per day: 4.2</b>			
Average Emission for AREA1			2.501E+05 grams
			2.889E-03 grams/sec
			1.922E-08 grams/m2-sec
Pounds/Construction Period			5.508E+02
Pounds/Day			5.497E-01
Pounds/Hour			2.290E-02
Pounds/Year			2.006E+02
Years			2.74521

## Cameron Creek Residential Project (Unmitigated Construction)

### Estimation of Annual Offsite Construction DPM Emissions (Unmitigated)

Start of Construction	10/2/2023										Total
End of Construction	6/30/2026										1,002
Number of Days	1,002										24,048
Number of Hours	24,048										
	2023	2023	2024	2024	2023	2024	2024	2025	2026	2026	
	Site Work	Site Work	Site Work	Site Work	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	
Construction Trip Type	Site Preparation	Grading	Grading	Paving	Building Construction	Building Construction	Paving	Building Construction	Building Construction	Architectural Coating	Total (pounds)
Total (pounds)	0.01997	0.42581	0.45086	0.036618782	0.22115079	1.97418	0.18212	1.96878	0.97630	0.03662	<b>6.29241</b>
	<b>Haul Truck</b>	<b>Vendor Truck</b>	<b>Worker</b>	<b>Total</b>							
Site Preparation 2023 (Site Work)	525.00	60.00	0.00	585.00							
Grading 2023 (Site Work)	700.00	70.00	291.67	1061.67							
Grading 2024 (Site Work)	780.00	78.00	325.00	1183.00							
Paving 2024 (Site Work)	825.00	110.00	0.00	935.00							
Building Construction 2023 (Home Construction)	1576.44	468.12	58.00	2102.56							
Building Construction 2024 (Home Construction)	14242.32	4229.18	524.00	18995.50							
Building Construction 2025 (Home Construction)	14187.96	4213.04	522.00	18923.00							
Building Construction 2026 (Home Construction)	7012.44	2082.31	258.00	9352.75							
Paving 2024 (Home Construction)	825.00	110.00	110.00	1045.00							
Architectural Coating 2026 (Home Construction)	597.96	110.00	0.00	707.96							
<b>Total</b>	<b>41272.12</b>	<b>11530.63</b>	<b>2088.67</b>	<b>54891.42</b>							
	<b>Haul Truck (pounds)</b>	<b>Vendor Truck (pounds)</b>	<b>Worker (pounds)</b>	<b>Total (pounds)</b>							
<b>Total DPM</b>	4.731E+00	1.322E+00	2.394E-01	6.292E+00							
<b>Average Emissions</b>											
Grams	2.148E+03	6.001E+02	1.087E+02								
Grams/sec	2.481E-05	6.932E-06	1.256E-06								
Default Distance	20	6.8	7.7	Default Vehicle Travel Distance in CalEEMod							
<b>Vehicle Travel Distances in the Construction HRA (miles)</b>											
Road Segment 1 (mi)	1.08	1.08	1.08	miles							
<b>Trip Distribution (percent)</b>											
Off-site Road Segment 1	100.0%	100.0%	100.0%	off-site							
<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>											
Off-site Road Segment 1	1.340E-06	1.101E-06	1.761E-07	2.617E-06							
	Grams/sec	Pounds/Hour	Pounds/Day	Pounds/year	Tons/year						
Off-site Road Segment 1	2.617E-06	2.077E-05	4.984E-04	1.819E-01	9.096E-05						

# Health Risk Summary - Unmitigated Construction (Summary of HARP2 Results)

## Cameron Creek Residential Project (Unmitigated Construction)

	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
Maximum Risk	2.0822E-05	20.82	1.1216E-02	0.00E+00
	X	Y		
MEI UTM	301039.20	4019403.10		
Lat/Long	36°17'56.8"N 119°12'56.8"W			
Receptor #	509			

\*HARP - HRACalc v22118 6/18/2023 12:59:03 PM - Cancer Risk - Input File: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConHRAInput.hra

\*HARP - HRACalc v22118 6/18/2023 12:59:03 PM - Chronic Risk - Input File: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConHRAInput.hra

\*HARP - HRACalc v22118 6/18/2023 12:59:03 PM - Acute Risk - Input File: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConHRAInput.hra















GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: All  
Calculation Method: HighEnd

\*\*\*\*\*

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 2.75

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25  
0<2 Years Bin: 2  
2<9 Years Bin: 0.75  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: True  
Beef: False  
Dairy: False

Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

#### INHALATION

Daily breathing rate: LongTerm24HR

**\*\*Worker Adjustment Factors\*\***

Worker adjustment factors enabled: NO

**\*\*Fraction at time at home\*\***

3rd Trimester to 16 years: OFF

16 years to 70 years: OFF

\*\*\*\*\*

#### SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02

Soil mixing depth (m): 0.01

Dermal climate: Mixed

\*\*\*\*\*

#### HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden

Fraction leafy: 0.137

Fraction exposed: 0.137

Fraction protected: 0.137

Fraction root: 0.137

\*\*\*\*\*

#### TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|

Calculating cancer risk

Cancer risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite

Receptors\UNMIT OFFSITE\hra\CC Unmit ConCancerRisk.csv

Cancer risk total by receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT

OFFSITE\hra\CC Unmit ConCancerRiskSumByRec.csv  
Calculating chronic risk  
Chronic risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConNCChronicRisk.csv  
Chronic risk total by receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConNCChronicRiskSumByRec.csv  
Calculating acute risk  
Acute risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConNCAcuteRisk.csv  
Acute risk total by receptor saved to: F:\Move\0014-033\HARP\01 - Unmit Offsite Receptors\UNMIT OFFSITE\hra\CC Unmit ConNCAcuteRiskSumByRec.csv  
HRA ran successfully



# **Health Risk Assessment**

## **Mitigated Construction**

## Cameron Creek Residential Project (Mitigated Construction - Tier 3)

### Estimation of Annual Onsite Construction Emissions

Start of Construction	10/2/2023	
End of Construction	6/30/2026	<b>Total</b>
Number of Days	1,002	1,002
Number of Hours	24,048	24,048

**Size of the construction area source: 150,300.1 sq-meters**

Run	Year	On-site Construction Activity	Tier 3 Mitigated On-site DPM (pounds)
Site Work	2023	On-site Site Preparation	28.2075
Site Work	2023	On-site Grading	43.0936
Site Work	2024	On-site Grading	45.2604
Site Work	2024	Paving	0.0366
Home Construction	2023	On-site Building Construction 2023	15.7969
Home Construction	2024	On-site Building Construction 2024	138.6620
Home Construction	2024	On-site Paving 2024	19.1894
Home Construction	2025	On-site Building Construction 2025	136.2296
Home Construction	2026	On-site Building Construction 2026	66.5894
Home Construction	2026	On-site Architectural Coating	1.2734

**Total Tier 3 Mitigated DPM (On-site) 4.943E+02 pounds**

**Factor in AERMOD to Account for 5 days per week/8 hours per day: 4.2**

Average Emission	2.244E+05 grams
	2.592E-03 grams/sec
	1.725E-08 grams/m2-sec
Pounds/Construction Period	4.943E+02 pounds
Pounds/Day	4.934E-01 pounds/day
Pounds/Hour	2.056E-02 pounds/hour
Pounds/Year	1.801E+02 pounds/year
Years	2.74521 years

### Cameron Creek Residential Project (Mitigated Construction - Tier 3)

#### Estimation of Annual Offsite Construction DPM Emissions (Mitigated - no change compared to unmitigated scenario)

Start of Construction	10/2/2023										Total
End of Construction	6/30/2026										1,002
Number of Days	1,002										24,048
Number of Hours	24,048										
	2023	2023	2024	2024	2023	2024	2024	2025	2026	2026	
	Site Work	Site Work	Site Work	Site Work	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	
Construction Trip Type	Site Preparation	Grading	Grading	Paving	Building Construction	Building Construction	Paving	Building Construction	Building Construction	Architectural Coating	Total (pounds)
Total (pounds)	0.01997	0.42581	0.45086	0.036618782	0.22115079	1.97418	0.18212	1.96878	0.97630	0.03662	<b>6.29241</b>
	<b>Haul Truck</b>	<b>Vendor Truck</b>	<b>Worker</b>	<b>Total</b>							
Site Preparation 2023 (Site Work)	525.00	60.00	0.00	585.00							
Grading 2023 (Site Work)	700.00	70.00	291.67	1061.67							
Grading 2024 (Site Work)	780.00	78.00	325.00	1183.00							
Paving 2024 (Site Work)	825.00	110.00	0.00	935.00							
Building Construction 2023 (Home Construction)	1576.44	468.12	58.00	2102.56							
Building Construction 2024 (Home Construction)	14242.32	4229.18	524.00	18995.50							
Building Construction 2025 (Home Construction)	14187.96	4213.04	522.00	18923.00							
Building Construction 2026 (Home Construction)	7012.44	2082.31	258.00	9352.75							
Paving 2024 (Home Construction)	825.00	110.00	110.00	1045.00							
Architectural Coating 2026 (Home Construction)	597.96	110.00	0.00	707.96							
<b>Total</b>	<b>41272.12</b>	<b>11530.63</b>	<b>2088.67</b>	<b>54891.42</b>							
	<b>Haul Truck (pounds)</b>	<b>Vendor Truck (pounds)</b>	<b>Worker (pounds)</b>	<b>Total (pounds)</b>							
<b>Total DPM</b>	4.731E+00	1.322E+00	2.394E-01	6.292E+00							
<b>Average Emissions</b>											
Grams	2.148E+03	6.001E+02	1.087E+02								
Grams/sec	2.481E-05	6.932E-06	1.256E-06								
Default Distance	20	6.8	7.7	Default Vehicle Travel Distance in CalEEMod							
<b>Vehicle Travel Distances in the Construction HRA (miles)</b>											
Road Segment 1 (mi)	1.08	1.08	1.08	miles							
<b>Trip Distribution (percent)</b>											
Off-site Road Segment 1	100.0%	100.0%	100.0%	off-site							
<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>				<b>Total</b>							
Off-site Road Segment 1	1.340E-06	1.101E-06	1.761E-07	2.617E-06							
	Grams/sec	Pounds/Hour	Pounds/Day	Pounds/year	Tons/year						
Off-site Road Segment 1	2.617E-06	2.077E-05	4.984E-04	1.819E-01	9.096E-05						

# Health Risk Summary - Unmitigated Construction (Summary of HARP2 Results)

## Cameron Creek Residential Project (Mitigated Construction - Tier 3)

	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
Maximum Risk	1.8687E-05	18.69	1.0066E-02	0.00E+00

MEI UTM      X                      Y  
 301039.20      4019403.10  
 Lat/Long 36°17'56.8"N 119°12'56.8"W  
 Receptor # 509

- \*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Cancer Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)HRAInput.hra
- \*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Chronic Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)HRAInput.hra
- \*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Acute Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)HRAInput.hra

### Health Risk Summary - Unmitigated Construction (Summary of HARP2 Results)

#### Cameron Creek Residential Project (Mitigated Construction - Tier 3)

Maximum Risk	RISK_SUM 1.8687E-05	Cancer	MAXHI	MAXHI
		Risk/million 18.69	NonCancer Chronic 1.0066E-02	Acute 0.00E+00
	X	Y		
	MEI UTM 301039.20	4019403.10		
	Lat/Long 36°17'56.8"N 119°12'56.8"W			
	Receptor # 509			

\*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Cancer Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)\HRAInput.hra  
\*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Chronic Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)\HRAInput.hra  
\*HARP - HRACalc v22118 6/19/2023 5:14:44 PM - Acute Risk - Input File: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)\HRAInput.hra

REC	GRP	X	Y	RISK_SUM	SCENARIO	MAXHI	MAXHI
						NonCancerChronic	Acute
1	ALL	301074.54	4019162.43	4.56500E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.4590E-03	0.00E+00
2	ALL	301117.50	4019202.74	4.96000E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.8718E-03	0.00E+00
3	ALL	301158.37	4019290.95	5.24870E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.8273E-03	0.00E+00
4	ALL	301035.43	4019081.52	2.82470E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.5216E-03	0.00E+00
5	ALL	301056.24	4019080.80	2.78900E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.5024E-03	0.00E+00
6	ALL	301164.69	4019157.61	3.33830E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.7983E-03	0.00E+00
7	ALL	301194.11	4019222.67	3.69750E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.9918E-03	0.00E+00
8	ALL	301030.60	4019001.05	1.77290E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.5504E-04	0.00E+00
9	ALL	301071.59	4019026.84	2.04680E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1025E-03	0.00E+00
10	ALL	301074.13	4019080.89	2.75350E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4832E-03	0.00E+00
11	ALL	301192.35	4019074.14	2.19570E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1827E-03	0.00E+00
12	ALL	301236.13	4019166.09	2.64760E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4262E-03	0.00E+00
13	ALL	301263.15	4019225.84	2.72020E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4653E-03	0.00E+00
14	ALL	301029.71	4018924.06	1.20680E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.5008E-04	0.00E+00
15	ALL	301067.46	4018924.16	1.23410E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.6478E-04	0.00E+00
16	ALL	301141.38	4018948.92	1.38520E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	7.4618E-04	0.00E+00
17	ALL	301187.59	4019001.52	1.65570E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.9190E-04	0.00E+00
18	ALL	301278.04	4019034.52	1.58950E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.5624E-04	0.00E+00
19	ALL	301306.05	4019096.49	1.76160E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.4890E-04	0.00E+00
20	ALL	301334.07	4019158.45	1.83990E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.9113E-04	0.00E+00
21	ALL	301362.09	4019220.42	1.81230E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.7623E-04	0.00E+00
22	ALL	301072.18	4018832.33	8.45310E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.5534E-04	0.00E+00
23	ALL	301141.76	4018869.96	1.00780E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.4288E-04	0.00E+00
24	ALL	301202.32	4018881.47	1.03920E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.5976E-04	0.00E+00
25	ALL	301267.38	4018906.04	1.07670E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.7999E-04	0.00E+00
26	ALL	301346.78	4018962.30	1.13570E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.1177E-04	0.00E+00
27	ALL	301375.44	4019025.67	1.25160E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.7422E-04	0.00E+00
28	ALL	301419.57	4019092.23	1.27080E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.8454E-04	0.00E+00
29	ALL	301425.01	4019165.62	1.37710E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	7.4181E-04	0.00E+00
30	ALL	301461.41	4019215.80	1.27350E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.8597E-04	0.00E+00
31	ALL	301004.46	4018708.00	4.99650E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.6915E-04	0.00E+00
32	ALL	301070.53	4018732.95	5.86990E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.1620E-04	0.00E+00
33	ALL	301136.60	4018757.90	6.70360E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.6110E-04	0.00E+00
34	ALL	301202.67	4018782.85	7.41210E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.9927E-04	0.00E+00
35	ALL	301268.74	4018807.79	7.90680E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.2591E-04	0.00E+00
36	ALL	301334.81	4018832.74	8.12730E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.3779E-04	0.00E+00
37	ALL	301423.64	4018889.21	8.40480E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.5274E-04	0.00E+00
38	ALL	301425.41	4018953.76	9.65440E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.2006E-04	0.00E+00
39	ALL	301473.82	4019018.56	9.89300E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.3132E-04	0.00E+00
40	ALL	301502.72	4019082.91	1.00600E-06	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.4189E-04	0.00E+00
41	ALL	301531.82	4019147.26	9.83610E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.2984E-04	0.00E+00
42	ALL	301560.91	4019211.61	9.34730E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.0351E-04	0.00E+00
43	ALL	300934.60	4018696.69	4.31020E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.3218E-04	0.00E+00
44	ALL	300897.78	4018697.85	4.03770E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.1750E-04	0.00E+00
45	ALL	300860.95	4018699.01	3.75600E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.0233E-04	0.00E+00
46	ALL	300824.13	4018700.17	3.47060E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.8695E-04	0.00E+00
47	ALL	300787.30	4018701.33	3.18530E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.7159E-04	0.00E+00
48	ALL	300750.47	4018702.49	2.90430E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.5645E-04	0.00E+00
49	ALL	300713.65	4018703.65	2.63200E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4178E-04	0.00E+00
50	ALL	300676.82	4018704.81	2.37230E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.2779E-04	0.00E+00
51	ALL	300640.00	4018705.97	2.12880E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1468E-04	0.00E+00
52	ALL	300603.17	4018707.13	1.90330E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.0252E-04	0.00E+00
53	ALL	301001.68	4018608.19	3.65530E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.9680E-04	0.00E+00
54	ALL	301068.49	4018633.41	4.26490E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.2974E-04	0.00E+00
55	ALL	301135.29	4018658.64	4.87220E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.6245E-04	0.00E+00
56	ALL	301202.09	4018683.87	5.43540E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.9279E-04	0.00E+00
57	ALL	301268.90	4018709.09	5.90320E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.1799E-04	0.00E+00
58	ALL	301335.70	4018734.32	6.22240E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.3518E-04	0.00E+00
59	ALL	301402.50	4018759.54	6.35660E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.4241E-04	0.00E+00
60	ALL	301484.01	4018817.30	6.63320E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.5731E-04	0.00E+00
61	ALL	301513.44	4018882.36	7.20880E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.8832E-04	0.00E+00
62	ALL	301542.86	4018947.43	7.63830E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.1145E-04	0.00E+00
63	ALL	301583.65	4018988.37	7.44870E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.0124E-04	0.00E+00
64	ALL	301601.70	4019077.56	7.81140E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.2079E-04	0.00E+00
65	ALL	301631.12	4019142.82	7.51130E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	4.1465E-04	0.00E+00
66	ALL	301660.54	4019207.69	7.06630E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	3.8064E-04	0.00E+00
67	ALL	300931.46	4018596.74	3.17930E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.7128E-04	0.00E+00
68	ALL	300894.63	4018597.90	2.99080E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.6110E-04	0.00E+00
69	ALL	300857.80	4018599.06	2.79860E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.5075E-04	0.00E+00
70	ALL	300820.98	4018600.22	2.60580E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4037E-04	0.00E+00
71	ALL	300784.15	4018601.38	2.41420E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.3005E-04	0.00E+00
72	ALL	300747.33	4018602.54	2.22870E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1995E-04	0.00E+00
73	ALL	300710.50	4018603.70	2.04430E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1012E-04	0.00E+00
74	ALL	300673.67	4018604.86	1.86940E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.0070E-04	0.00E+00
75	ALL	300636.85	4018606.02	1.70310E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.1472E-05	0.00E+00
76	ALL	300600.02	4018607.18	1.5450E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.3308E-05	0.00E+00
77	ALL	300489.38	4019222.38	4.79870E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	2.5849E-04	0.00E+00
78	ALL	300426.82	4019213.60	3.46840E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.8683E-04	0.00E+00
79	ALL	300349.32	4019244.13	3.03960E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.6373E-04	0.00E+00
80	ALL	300362.89	4019208.40	2.70710E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.4583E-04	0.00E+00
81	ALL	300376.46	4019172.68	2.47000E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.3305E-04	0.00E+00
82	ALL	300390.03	4019136.95	2.29620E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.2369E-04	0.00E+00
83	ALL	300249.37	4019247.04	2.32940E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.2548E-04	0.00E+00
84	ALL	300262.93	4019211.32	2.06920E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.1146E-04	0.00E+00
85	ALL	300276.50	4019175.59	1.88140E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.0134E-04	0.00E+00
86	ALL	300290.07	4019139.87	1.73450E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	9.3434E-05	0.00E+00
87	ALL	300303.64	4019104.14	1.61860E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.7191E-05	0.00E+00
88	ALL	300317.20	4019068.42	1.52750E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.2281E-05	0.00E+00
89	ALL	300365.81	4019016.99	1.55400E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.3711E-05	0.00E+00
90	ALL	300149.41	4019249.96	1.87540E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	1.0102E-04	0.00E+00
91	ALL	300162.98	4019214.23	1.66250E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.9555E-05	0.00E+00
92	ALL	300176.54	4019178.51	1.51160E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.1428E-05	0.00E+00
93	ALL	300190.11	4019142.78	1.39270E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	7.5019E-05	0.00E+00
94	ALL	300203.68	4019107.06	1.29630E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.9829E-05	0.00E+00
95	ALL	300217.25	4019071.33	1.21770E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.5595E-05	0.00E+00
96	ALL	300230.81	4019035.61	1.15260E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.2086E-05	0.00E+00
97	ALL	300244.38	4018999.88	1.09770E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.9129E-05	0.00E+00
98	ALL	300292.79	4018948.45	1.10300E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	5.9414E-05	0.00E+00
99	ALL	300327.62	4018932.74	1.16870E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	6.2955E-05	0.00E+00
100	ALL	300049.45	4019252.87	1.55960E-07	2.75YrCancerHighEnd_InhSoilDermMMikCrops	8.3794E-05	0.00E+00
101	ALL	300063.02	4019217.15	1.37770E-07	2.75Y		

104	ALL	300103.72	4019109.97	1.07500E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.7909E-05	0.00E+00
105	ALL	300117.29	4019074.25	1.00960E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.4383E-05	0.00E+00
106	ALL	300130.86	4019038.52	9.55120E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.1449E-05	0.00E+00
107	ALL	300144.42	4019002.80	9.08890E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.8959E-05	0.00E+00
108	ALL	300157.99	4018967.07	8.68480E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.6782E-05	0.00E+00
109	ALL	300171.56	4018931.35	8.32260E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.4831E-05	0.00E+00
110	ALL	300219.96	4018879.92	8.29049E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.4659E-05	0.00E+00
111	ALL	300254.80	4018864.21	8.89350E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.6611E-05	0.00E+00
112	ALL	300289.64	4018848.50	9.10670E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.9055E-05	0.00E+00
113	ALL	300324.47	4018832.79	9.67940E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.2140E-05	0.00E+00
114	ALL	300359.31	4018817.08	1.03940E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.5991E-05	0.00E+00
115	ALL	300394.15	4018801.38	1.12630E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.0670E-05	0.00E+00
116	ALL	300428.99	4018785.67	1.22850E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.6177E-05	0.00E+00
117	ALL	300463.82	4018769.96	1.34520E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.2461E-05	0.00E+00
118	ALL	300498.66	4018754.25	1.47410E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.9408E-05	0.00E+00
119	ALL	300533.50	4018738.54	1.61250E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.6861E-05	0.00E+00
120	ALL	300568.33	4018722.84	1.75680E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	9.4636E-05	0.00E+00
121	ALL	299949.49	4018755.79	1.27040E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.8431E-05	0.00E+00
122	ALL	299963.06	4019220.06	1.15320E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.2120E-05	0.00E+00
123	ALL	299976.63	4019184.34	1.05800E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.7035E-05	0.00E+00
124	ALL	299990.20	4019148.62	9.79320E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.2732E-05	0.00E+00
125	ALL	300003.76	4019112.89	9.12550E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.9157E-05	0.00E+00
126	ALL	300017.33	4019077.17	8.56840E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.6156E-05	0.00E+00
127	ALL	300030.90	4019041.44	8.10740E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.3672E-05	0.00E+00
128	ALL	300044.47	4019005.72	7.71960E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.1583E-05	0.00E+00
129	ALL	300058.03	4018969.99	7.38760E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.9795E-05	0.00E+00
130	ALL	300071.60	4018934.27	7.09200E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.8203E-05	0.00E+00
131	ALL	300085.17	4018898.54	6.82090E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.6742E-05	0.00E+00
132	ALL	300098.74	4018862.82	6.56620E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.5370E-05	0.00E+00
133	ALL	300117.14	4018811.38	6.50270E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.5028E-05	0.00E+00
134	ALL	300181.98	4018795.67	6.71220E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.6156E-05	0.00E+00
135	ALL	300216.82	4018779.97	6.97050E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.7548E-05	0.00E+00
136	ALL	300251.65	4018764.26	7.29790E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.9312E-05	0.00E+00
137	ALL	300286.49	4018748.55	7.74800E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.1556E-05	0.00E+00
138	ALL	300321.33	4018732.84	8.23690E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.4370E-05	0.00E+00
139	ALL	300356.16	4018717.13	8.87070E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.7784E-05	0.00E+00
140	ALL	300391.00	4018701.43	9.61590E-08	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.1798E-05	0.00E+00
141	ALL	300425.84	4018685.72	1.04630E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.6361E-05	0.00E+00
142	ALL	300460.67	4018670.01	1.13930E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.1369E-05	0.00E+00
143	ALL	300495.51	4018654.30	1.23830E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	6.6702E-05	0.00E+00
144	ALL	300530.35	4018638.59	1.34080E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.2288E-05	0.00E+00
145	ALL	300565.18	4018622.89	1.44440E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.7804E-05	0.00E+00
146	ALL	299922.36	4019327.24	1.49300E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.0423E-05	0.00E+00
147	ALL	299923.49	4019365.90	1.62230E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.7390E-05	0.00E+00
148	ALL	299924.61	4019404.57	1.75110E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	9.6055E-05	0.00E+00
149	ALL	299925.74	4019443.23	1.96430E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.0581E-04	0.00E+00
150	ALL	299926.87	4019481.89	2.15940E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.1632E-04	0.00E+00
151	ALL	299928.00	4019520.56	2.36420E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2735E-04	0.00E+00
152	ALL	299929.12	4019559.22	2.57350E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.3863E-04	0.00E+00
153	ALL	299930.25	4019597.88	2.78190E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.4985E-04	0.00E+00
154	ALL	299931.38	4019636.55	2.98350E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.6071E-04	0.00E+00
155	ALL	299932.51	4019675.21	3.17160E-07	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.7085E-04	0.00E+00
156	ALL	300636.36	4019722.37	7.19740E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.8770E-03	0.00E+00
157	ALL	300673.33	4019722.51	8.29700E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.4694E-03	0.00E+00
158	ALL	300710.30	4019722.66	9.82790E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.8092E-03	0.00E+00
159	ALL	300747.27	4019722.80	9.24330E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.9791E-03	0.00E+00
160	ALL	300784.24	4019722.95	9.33910E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	5.0307E-03	0.00E+00
161	ALL	300821.21	4019723.09	9.29540E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.9878E-03	0.00E+00
162	ALL	300858.18	4019723.24	9.01110E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.8544E-03	0.00E+00
163	ALL	300895.16	4019723.38	8.57100E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.6165E-03	0.00E+00
164	ALL	300932.13	4019723.53	7.85670E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	4.2322E-03	0.00E+00
165	ALL	300969.10	4019723.67	6.84320E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.6863E-03	0.00E+00
166	ALL	301006.07	4019723.82	5.47200E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	2.9476E-03	0.00E+00
167	ALL	300668.79	4019754.94	5.76290E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.1043E-03	0.00E+00
168	ALL	300705.76	4019755.09	6.20080E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.3402E-03	0.00E+00
169	ALL	300742.73	4019755.23	6.43280E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.4652E-03	0.00E+00
170	ALL	300779.70	4019755.38	6.50110E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.5020E-03	0.00E+00
171	ALL	300816.67	4019755.52	6.43270E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.4651E-03	0.00E+00
172	ALL	300853.64	4019755.67	6.23380E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.3580E-03	0.00E+00
173	ALL	300890.61	4019755.81	5.98350E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	3.1720E-03	0.00E+00
174	ALL	300927.59	4019755.96	5.58350E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	2.8999E-03	0.00E+00
175	ALL	300964.56	4019756.10	4.73710E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	2.5518E-03	0.00E+00
176	ALL	301001.53	4019756.25	3.96100E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	2.1337E-03	0.00E+00
177	ALL	300668.53	4019821.61	3.40460E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.8339E-03	0.00E+00
178	ALL	300705.50	4019821.76	3.57640E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.9265E-03	0.00E+00
179	ALL	300742.47	4019821.90	3.67520E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.9797E-03	0.00E+00
180	ALL	300779.44	4019822.05	3.68970E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.9875E-03	0.00E+00
181	ALL	300816.41	4019822.19	3.62540E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.9529E-03	0.00E+00
182	ALL	300853.38	4019822.34	3.48760E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.8787E-03	0.00E+00
183	ALL	300890.35	4019822.48	3.27850E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.7661E-03	0.00E+00
184	ALL	300927.32	4019822.63	3.00830E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.6205E-03	0.00E+00
185	ALL	300964.30	4019822.77	2.70130E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.4551E-03	0.00E+00
186	ALL	301001.27	4019822.92	2.49510E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2745E-03	0.00E+00
187	ALL	300406.09	4019800.10	1.84920E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.8446E-04	0.00E+00
188	ALL	300668.27	4019888.28	2.26430E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2197E-03	0.00E+00
189	ALL	300705.24	4019888.42	2.34090E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2610E-03	0.00E+00
190	ALL	300742.21	4019888.57	2.37750E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2807E-03	0.00E+00
191	ALL	300779.18	4019888.71	2.37160E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2775E-03	0.00E+00
192	ALL	300816.15	4019888.86	2.32360E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2516E-03	0.00E+00
193	ALL	300853.12	4019889.00	2.23660E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.2048E-03	0.00E+00
194	ALL	300890.09	4019889.15	2.11230E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.1378E-03	0.00E+00
195	ALL	300927.06	4019889.29	1.96560E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	1.0588E-03	0.00E+00
196	ALL	300964.03	4019889.44	1.80030E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	9.6978E-04	0.00E+00
197	ALL	301001.00	4019889.58	1.62240E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.7392E-04	0.00E+00
198	ALL	300601.28	4019942.63	1.59810E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.6082E-04	0.00E+00
199	ALL	300366.90	4019706.16	1.35370E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.2922E-04	0.00E+00
200	ALL	300668.00	4019954.94	1.61470E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.6881E-04	0.00E+00
201	ALL	300704.98	4019955.09	1.64550E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.8638E-04	0.00E+00
202	ALL	300741.95	4019955.23	1.65560E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.9183E-04	0.00E+00
203	ALL	300778.92	4019955.38	1.64380E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.8545E-04	0.00E+00
204	ALL	300815.89	4019955.52	1.61050E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.6752E-04	0.00E+00
205	ALL	300852.86	4019955.67	1.55310E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	8.3661E-04	0.00E+00
206	ALL	300889.83	4019955.81	1.48230E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.9848E-04	0.00E+00
207	ALL	300926.80	4019955.96	1.39720E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.5261E-04	0.00E+00
208	ALL	300963.77	4019956.10	1.30050E-06	2.75YrCancerHighEnd_InhSoilDermMilkCrops	7.0057E-04	0.00E+00
209	ALL	301000.74	4019956.25	1.19570E-06			

227	ALL	300667.22	4020154.94	7.40400E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.9883E-04	0.00E+00
228	ALL	300704.19	4020155.09	7.39760E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.9849E-04	0.00E+00
229	ALL	300741.16	4020155.23	7.35530E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.9621E-04	0.00E+00
230	ALL	300778.13	4020155.38	7.26640E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.9142E-04	0.00E+00
231	ALL	300815.10	4020155.52	7.14320E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.8478E-04	0.00E+00
232	ALL	300852.08	4020155.67	6.98700E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.7637E-04	0.00E+00
233	ALL	300889.05	4020155.81	6.79330E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.6594E-04	0.00E+00
234	ALL	300926.02	4020155.96	6.56290E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.5353E-04	0.00E+00
235	ALL	300962.99	4020156.10	6.29940E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.3933E-04	0.00E+00
236	ALL	300999.96	4020156.25	6.00610E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.2353E-04	0.00E+00
237	ALL	300597.82	4020241.69	5.68740E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.0637E-04	0.00E+00
238	ALL	300533.74	4020215.47	6.03610E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.2515E-04	0.00E+00
239	ALL	300469.66	4020189.25	6.29330E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.3900E-04	0.00E+00
240	ALL	300405.58	4020163.04	6.41820E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.4573E-04	0.00E+00
241	ALL	300341.49	4020136.82	6.37760E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.4354E-04	0.00E+00
242	ALL	300277.41	4020110.60	6.13540E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.3049E-04	0.00E+00
243	ALL	300199.42	4020052.68	5.82040E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.1353E-04	0.00E+00
244	ALL	300171.59	4019989.29	5.88610E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.1707E-04	0.00E+00
245	ALL	300666.83	4020254.94	5.49710E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.9612E-04	0.00E+00
246	ALL	300703.80	4020255.09	5.47650E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.9506E-04	0.00E+00
247	ALL	300740.77	4020255.23	5.43790E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.9292E-04	0.00E+00
248	ALL	300777.74	4020255.38	5.38000E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.8980E-04	0.00E+00
249	ALL	300814.71	4020255.52	5.29400E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.8518E-04	0.00E+00
250	ALL	300851.68	4020255.67	5.19460E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.7982E-04	0.00E+00
251	ALL	300888.65	4020255.81	5.07670E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.7346E-04	0.00E+00
252	ALL	300925.62	4020255.96	4.93840E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.6602E-04	0.00E+00
253	ALL	300962.60	4020256.10	4.78090E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5753E-04	0.00E+00
254	ALL	300999.57	4020256.25	4.60530E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.4808E-04	0.00E+00
255	ALL	300597.07	4020341.54	4.41830E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.3800E-04	0.00E+00
256	ALL	300532.28	4020315.03	4.68990E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5258E-04	0.00E+00
257	ALL	300467.48	4020288.52	4.92540E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.6531E-04	0.00E+00
258	ALL	300402.69	4020262.02	5.09980E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.7471E-04	0.00E+00
259	ALL	300337.90	4020235.51	5.18430E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.7926E-04	0.00E+00
260	ALL	300273.11	4020200.00	5.13500E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.7166E-04	0.00E+00
261	ALL	300208.31	4020182.49	4.95500E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.6691E-04	0.00E+00
262	ALL	300129.45	4020123.93	4.71130E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5379E-04	0.00E+00
263	ALL	300101.32	4020059.83	4.76150E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5649E-04	0.00E+00
264	ALL	300073.18	4019995.72	4.73090E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5484E-04	0.00E+00
265	ALL	300045.05	4019931.62	4.61760E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.4874E-04	0.00E+00
266	ALL	300016.91	4019867.52	4.40310E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.3718E-04	0.00E+00
267	ALL	299988.78	4019803.42	4.07670E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.1960E-04	0.00E+00
268	ALL	299960.64	4019739.31	3.65300E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.9678E-04	0.00E+00
269	ALL	300666.44	4020354.94	4.26610E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2980E-04	0.00E+00
270	ALL	300703.41	4020355.08	4.24430E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2863E-04	0.00E+00
271	ALL	300740.38	4020355.23	4.21230E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2690E-04	0.00E+00
272	ALL	300777.35	4020355.37	4.16940E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2459E-04	0.00E+00
273	ALL	300814.32	4020355.52	4.11480E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2165E-04	0.00E+00
274	ALL	300851.29	4020355.66	4.04850E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.1808E-04	0.00E+00
275	ALL	300888.26	4020355.81	3.96460E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.1356E-04	0.00E+00
276	ALL	300925.23	4020355.95	3.87530E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.0875E-04	0.00E+00
277	ALL	300962.20	4020356.10	3.77420E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.0330E-04	0.00E+00
278	ALL	300999.17	4020356.24	3.65640E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.9696E-04	0.00E+00
279	ALL	301050.88	4019684.88	5.59420E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.0134E-03	0.00E+00
280	ALL	301048.04	4019642.35	9.71060E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.2308E-03	0.00E+00
281	ALL	301046.88	4019606.25	1.27770E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	6.8829E-03	0.00E+00
282	ALL	301045.72	4019570.15	1.48640E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	8.0068E-03	0.00E+00
283	ALL	301044.56	4019534.05	1.62430E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	8.7498E-03	0.00E+00
284	ALL	301043.40	4019497.94	1.71940E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	9.2621E-03	0.00E+00
285	ALL	301043.08	4019467.99	1.75880E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	9.4744E-03	0.00E+00
286	ALL	301041.08	4019425.74	1.82220E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	9.8157E-03	0.00E+00
287	ALL	301080.48	4019369.46	1.09480E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.8975E-03	0.00E+00
288	ALL	301051.17	4019376.81	1.56890E-05	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	8.4514E-03	0.00E+00
289	ALL	301103.90	4019682.93	3.33830E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.7983E-03	0.00E+00
290	ALL	301053.46	4019722.52	3.73680E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.0129E-03	0.00E+00
291	ALL	301100.43	4019625.04	5.31070E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.8607E-03	0.00E+00
292	ALL	301098.15	4019588.93	6.65720E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.5860E-03	0.00E+00
293	ALL	301098.39	4019544.73	7.78690E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.1946E-03	0.00E+00
294	ALL	301097.23	4019508.63	8.53080E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.5953E-03	0.00E+00
295	ALL	301096.07	4019472.53	9.06750E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.8944E-03	0.00E+00
296	ALL	301094.91	4019436.43	9.42090E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.0748E-03	0.00E+00
297	ALL	301092.56	4019413.96	9.71800E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.2348E-03	0.00E+00
298	ALL	301089.65	4019370.68	9.03400E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.8664E-03	0.00E+00
299	ALL	301091.43	4019328.12	9.39420E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.0604E-03	0.00E+00
300	ALL	301090.27	4019292.02	8.83380E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.7585E-03	0.00E+00
301	ALL	301143.88	4019682.12	2.46830E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.3296E-03	0.00E+00
302	ALL	301133.19	4019742.05	1.87120E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.0079E-03	0.00E+00
303	ALL	301091.38	4019785.05	1.90730E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.0274E-03	0.00E+00
304	ALL	301189.96	4019619.82	2.51240E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.3533E-03	0.00E+00
305	ALL	301188.80	4019583.72	2.97540E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.6028E-03	0.00E+00
306	ALL	301187.64	4019547.62	3.43500E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.8503E-03	0.00E+00
307	ALL	301186.48	4019511.52	3.84520E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.0713E-03	0.00E+00
308	ALL	301186.03	4019470.43	4.20460E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.2649E-03	0.00E+00
309	ALL	301186.94	4019434.76	4.59290E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.5674E-03	0.00E+00
310	ALL	301184.59	4019413.19	4.66220E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.4597E-03	0.00E+00
311	ALL	301158.41	4019367.13	5.58580E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	3.0089E-03	0.00E+00
312	ALL	301158.06	4019325.98	5.49170E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	2.9582E-03	0.00E+00
313	ALL	301233.43	4019679.82	1.46440E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	7.8885E-04	0.00E+00
314	ALL	301202.18	4019733.83	1.34250E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	7.2318E-04	0.00E+00
315	ALL	301180.21	4019790.54	1.17750E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	6.3427E-04	0.00E+00
316	ALL	301141.19	4019830.68	1.21050E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	6.5208E-04	0.00E+00
317	ALL	301055.73	4019855.01	1.58900E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	8.5592E-04	0.00E+00
318	ALL	301235.13	4019621.16	1.87920E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.0123E-03	0.00E+00
319	ALL	301234.75	4019581.58	2.20750E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.1891E-03	0.00E+00
320	ALL	301232.81	4019545.48	2.54060E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.3686E-03	0.00E+00
321	ALL	301230.49	4019504.35	2.89960E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.5619E-03	0.00E+00
322	ALL	301232.42	4019471.57	3.07910E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.6586E-03	0.00E+00
323	ALL	301228.17	4019432.14	3.36900E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.8148E-03	0.00E+00
324	ALL	301225.83	4019409.57	3.50830E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.8898E-03	0.00E+00
325	ALL	301230.49	4019365.19	3.51600E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.8938E-03	0.00E+00
326	ALL	301224.69	4019323.84	3.62950E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.9551E-03	0.00E+00
327	ALL	301223.53	4019287.74	3.56830E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	1.9221E-03	0.00E+00
328	ALL	301289.66	4019677.87	1.13030E-06	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	6.0887E-04	0.00E+00
329	ALL	301265.45	4019740.37	9.81670E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	5.2880E-04	0.00E+00
330	ALL	301241.23	4019802.87	8.62360E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.6453E-04	0.00E+00
331	ALL	301186.12	4019878.35	8.50320E-07	2.75YrCancerHighEnd_InhSoilDermMMilkCrops	4.5804E-04	0.00E+00
332	ALL	301124.33	4019904.32	9.94430E-07			

350	ALL	301070.58	4020010.04	8.21960E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.4276E-04	0.00E+00
351	ALL	301407.51	4019600.88	9.11330E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.9091E-04	0.00E+00
352	ALL	301406.35	4019564.78	1.01520E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	5.4684E-04	0.00E+00
353	ALL	301405.19	4019528.68	1.12250E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	6.0468E-04	0.00E+00
354	ALL	301404.03	4019492.57	1.23050E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	6.6283E-04	0.00E+00
355	ALL	301395.91	4019462.89	1.35520E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	7.3001E-04	0.00E+00
356	ALL	301386.21	4019439.37	1.54370E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	8.3153E-04	0.00E+00
357	ALL	301404.11	4019406.14	1.4360E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	7.7376E-04	0.00E+00
358	ALL	301392.43	4019354.59	1.59780E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	8.6088E-04	0.00E+00
359	ALL	301387.18	4019331.68	1.65800E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	8.9311E-04	0.00E+00
360	ALL	301390.11	4019282.38	1.66580E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	8.9731E-04	0.00E+00
361	ALL	301488.82	4019673.34	5.63630E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.0361E-04	0.00E+00
362	ALL	301463.14	4019739.63	5.03050E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.7098E-04	0.00E+00
363	ALL	301418.57	4019803.40	4.76150E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.5649E-04	0.00E+00
364	ALL	301411.78	4019872.21	4.06420E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.1893E-04	0.00E+00
365	ALL	301386.10	4019938.49	3.78490E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.0388E-04	0.00E+00
366	ALL	301327.65	4019988.08	4.00740E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.1587E-04	0.00E+00
367	ALL	301262.11	4020046.09	4.43830E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.3908E-04	0.00E+00
368	ALL	301196.58	4020073.63	5.01630E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.7021E-04	0.00E+00
369	ALL	301141.56	4020108.73	5.27890E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.8436E-04	0.00E+00
370	ALL	301048.73	4020111.94	6.31040E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.3992E-04	0.00E+00
371	ALL	301500.50	4019604.09	6.56760E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.5378E-04	0.00E+00
372	ALL	301499.34	4019567.99	7.21520E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.8866E-04	0.00E+00
373	ALL	301498.18	4019531.89	7.88300E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.2463E-04	0.00E+00
374	ALL	301497.02	4019495.78	8.55760E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.6098E-04	0.00E+00
375	ALL	301495.86	4019459.68	9.22540E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.9694E-04	0.00E+00
376	ALL	301514.26	4019400.12	9.49940E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	5.1170E-04	0.00E+00
377	ALL	301493.26	4019405.36	1.01620E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	5.4742E-04	0.00E+00
378	ALL	301507.40	4019359.11	1.02190E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	5.5049E-04	0.00E+00
379	ALL	301491.22	4019315.27	1.12540E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	6.0222E-04	0.00E+00
380	ALL	301490.06	4019279.17	1.15680E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	6.2312E-04	0.00E+00
381	ALL	301588.57	4019670.64	4.34050E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.3381E-04	0.00E+00
382	ALL	301562.50	4019737.94	3.92340E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.1129E-04	0.00E+00
383	ALL	301536.42	4019809.25	3.51900E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.8569E-04	0.00E+00
384	ALL	301523.39	4019838.91	3.34640E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.8026E-04	0.00E+00
385	ALL	301497.31	4019906.22	3.05670E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.6465E-04	0.00E+00
386	ALL	301471.24	4019973.53	2.85640E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5387E-04	0.00E+00
387	ALL	301458.20	4020007.18	2.78720E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5014E-04	0.00E+00
388	ALL	301398.85	4020088.47	2.88030E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5515E-04	0.00E+00
389	ALL	301365.58	4020102.45	3.07600E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.6569E-04	0.00E+00
390	ALL	301332.30	4020116.43	3.28320E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.7686E-04	0.00E+00
391	ALL	301299.03	4020130.41	3.48880E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.8793E-04	0.00E+00
392	ALL	301265.76	4020144.40	3.69100E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.9882E-04	0.00E+00
393	ALL	301232.48	4020158.38	3.88360E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.0920E-04	0.00E+00
394	ALL	301165.93	4020186.34	7.81320E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.2737E-04	0.00E+00
395	ALL	301136.93	4020189.14	4.42890E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.3637E-04	0.00E+00
396	ALL	301084.27	4020189.98	4.83430E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.6041E-04	0.00E+00
397	ALL	301066.11	4020228.28	4.53250E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4415E-04	0.00E+00
398	ALL	301032.84	4020242.26	4.57880E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4665E-04	0.00E+00
399	ALL	301601.61	4019636.98	4.54390E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4477E-04	0.00E+00
400	ALL	301600.45	4019600.88	4.94350E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.6629E-04	0.00E+00
401	ALL	301599.29	4019564.78	5.37210E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.8938E-04	0.00E+00
402	ALL	301598.13	4019528.68	5.80110E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.1249E-04	0.00E+00
403	ALL	301596.97	4019492.57	6.23380E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.3580E-04	0.00E+00
404	ALL	301595.81	4019456.47	6.66070E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.5879E-04	0.00E+00
405	ALL	301594.65	4019420.37	7.08490E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.8164E-04	0.00E+00
406	ALL	301593.49	4019384.27	7.46880E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.0232E-04	0.00E+00
407	ALL	301592.33	4019348.17	7.81320E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.2086E-04	0.00E+00
408	ALL	301591.17	4019312.06	8.11760E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.3727E-04	0.00E+00
409	ALL	301590.01	4019275.96	8.41230E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	4.5315E-04	0.00E+00
410	ALL	301689.20	4019665.67	3.47080E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.8696E-04	0.00E+00
411	ALL	301664.48	4019729.47	3.18800E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.7173E-04	0.00E+00
412	ALL	301639.77	4019793.28	2.91360E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5695E-04	0.00E+00
413	ALL	301615.05	4019857.08	2.66210E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.4340E-04	0.00E+00
414	ALL	301590.33	4019920.89	2.44630E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.3177E-04	0.00E+00
415	ALL	301565.62	4019984.69	2.28580E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.2313E-04	0.00E+00
416	ALL	301540.90	4020048.49	2.18520E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.1771E-04	0.00E+00
417	ALL	301516.18	4020112.30	2.13240E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.1486E-04	0.00E+00
418	ALL	301472.28	4020157.45	2.23630E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.2057E-04	0.00E+00
419	ALL	301409.20	4020183.20	2.50700E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.3504E-04	0.00E+00
420	ALL	301346.12	4020210.46	2.79070E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5033E-04	0.00E+00
421	ALL	301283.04	4020236.97	3.06430E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.6508E-04	0.00E+00
422	ALL	301219.96	4020263.47	3.30260E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.7790E-04	0.00E+00
423	ALL	301156.88	4020289.98	3.48210E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.8757E-04	0.00E+00
424	ALL	301093.80	4020316.49	3.60310E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.9409E-04	0.00E+00
425	ALL	301700.40	4019597.67	3.87590E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.0878E-04	0.00E+00
426	ALL	301699.24	4019561.57	4.16000E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.2409E-04	0.00E+00
427	ALL	301698.08	4019525.46	4.45600E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4003E-04	0.00E+00
428	ALL	301696.92	4019489.36	4.75070E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.5591E-04	0.00E+00
429	ALL	301695.76	4019453.26	5.04220E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.7161E-04	0.00E+00
430	ALL	301694.60	4019417.16	5.32660E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.8693E-04	0.00E+00
431	ALL	301693.44	4019381.06	5.59720E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.0151E-04	0.00E+00
432	ALL	301692.28	4019345.05	5.95000E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.1523E-04	0.00E+00
433	ALL	301691.12	4019308.85	6.08400E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.2773E-04	0.00E+00
434	ALL	301689.96	4019272.75	6.28920E-07	2.75YrCancerHighEnd_InhSolDermMmilkCrops	3.3878E-04	0.00E+00
435	ALL	301685.11	4019788.64	4.13200E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.2258E-03	0.00E+00
436	ALL	300687.08	4019788.79	4.46750E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4065E-03	0.00E+00
437	ALL	300724.06	4019788.93	4.68130E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.5217E-03	0.00E+00
438	ALL	300761.03	4019789.08	4.77310E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.5711E-03	0.00E+00
439	ALL	300798.00	4019789.22	4.75500E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.5614E-03	0.00E+00
440	ALL	300834.97	4019789.37	4.63580E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.4972E-03	0.00E+00
441	ALL	300871.94	4019789.51	4.41990E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.3809E-03	0.00E+00
442	ALL	300908.91	4019789.66	4.09170E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.2041E-03	0.00E+00
443	ALL	300945.88	4019789.80	3.69330E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.9895E-03	0.00E+00
444	ALL	300982.85	4019789.95	3.2850E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.7380E-03	0.00E+00
445	ALL	300644.25	4019820.42	3.26630E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.7595E-03	0.00E+00
446	ALL	300644.88	4019755.60	5.33190E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	2.8721E-03	0.00E+00
447	ALL	301009.88	4019789.58	2.87130E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.5467E-03	0.00E+00
448	ALL	301093.01	4019079.40	2.67720E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.4421E-03	0.00E+00
449	ALL	301111.74	4019081.37	2.63880E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.4214E-03	0.00E+00
450	ALL	301137.36	4019079.07	2.50240E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.3480E-03	0.00E+00
451	ALL	301152.80	4019077.10	2.41010E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.2982E-03	0.00E+00
452	ALL	301172.51	4019077.76	2.32460E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.2522E-03	0.00E+00
453	ALL	301032.89	4019030.45	2.08550E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.1234E-03	0.00E+00
454	ALL	301057.20	4019027.50	2.05830E-06	2.75YrCancerHighEnd_InhSolDermMmilkCrops	1.1088E-03	0.00E+00
455	ALL	301094.65	4019027.17	2.03100E-06			







HARP2 - HRACalc (dated 22118) 6/19/2023 5:14:44 PM - Output Log

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully

\*\*\*\*\*

RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: All  
Calculation Method: HighEnd

\*\*\*\*\*

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 2.75

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25  
0<2 Years Bin: 2  
2<9 Years Bin: 0.75  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False

Homegrown crops: True  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

INHALATION

Daily breathing rate: LongTerm24HR

\*\*Worker Adjustment Factors\*\*

Worker adjustment factors enabled: NO

\*\*Fraction at time at home\*\*

3rd Trimester to 16 years: OFF

16 years to 70 years: OFF

\*\*\*\*\*

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02

Soil mixing depth (m): 0.01

Dermal climate: Mixed

\*\*\*\*\*

HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden

Fraction leafy: 0.137

Fraction exposed: 0.137

Fraction protected: 0.137

Fraction root: 0.137

\*\*\*\*\*

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.  
Tier2 - What was changed: ED or start age changed|  
Calculating cancer risk  
Cancer risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)CancerRisk.csv  
Cancer risk total by receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)CancerRiskSumByRec.csv  
Calculating chronic risk  
Chronic risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)NCChronicRisk.csv  
Chronic risk total by receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)NCChronicRiskSumByRec.csv  
Calculating acute risk  
Acute risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)NCAcuteRisk.csv  
Acute risk total by receptor saved to: F:\Move\0014-033\HARP\02 - Mit Con T3\hra\CC Mitigated Con (T3)NCAcuteRiskSumByRec.csv  
HRA ran successfully

## Cameron Creek Residential Project (Mitigated Construction - Level 3 Filters)

### Estimation of Annual Onsite Construction Emissions

Start of Construction	10/2/2023	
End of Construction	6/30/2026	<b>Total</b>
Number of Days	1,002	1,002
Number of Hours	24,048	24,048

**Size of the construction area source: 150,300.1 sq-meters**

Run	Year	On-site Construction Activity	Level 3 Filters Mitigated On-site DPM
Site Work	2023	On-site Site Preparation	8.1228
Site Work	2023	On-site Grading	10.7877
Site Work	2024	On-site Grading	10.2632
Site Work	2024	Paving	7.5389
Home Construction	2023	On-site Building Construction 2023	5.1031
Home Construction	2024	On-site Building Construction 2024	41.1800
Home Construction	2024	On-site Paving 2024	7.5389
Home Construction	2025	On-site Building Construction 2025	36.4861
Home Construction	2026	On-site Building Construction 2026	16.1378
Home Construction	2026	On-site Architectural Coating	1.2734

**Total Level 3 Filters Mitigated DPM (On-site) 1.444E+02 pounds**

**Factor in AERMOD to Account for 5 days per week/8 hours per day: 4.2**

Average Emission	6.557E+04 grams
	7.574E-04 grams/sec
	5.039E-09 grams/m2-sec
Pounds/Construction Period	1.444E+02 pounds
Pounds/Day	1.441E-01 pounds/day
Pounds/Hour	6.006E-03 pounds/hour
Pounds/Year	5.261E+01 pounds/year
Years	2.74521 years

## Cameron Creek Residential Project (Mitigated Construction - Level 3 Filters)

### Estimation of Annual Offsite Construction DPM Emissions (Mitigated - no change compared to unmitigated scenario)

Start of Construction	10/2/2023										
End of Construction	6/30/2026										<b>Total</b>
Number of Days	1,002										1,002
Number of Hours	24,048										24,048
	2023	2023	2024	2024	2023	2024	2024	2025	2026	2026	
	Site Work	Site Work	Site Work	Site Work	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	Home Construction	
<b>Construction Trip Type</b>	Site Preparation	Grading	Grading	Paving	Building Construction	Building Construction	Paving	Building Construction	Building Construction	Architectural Coating	<b>Total</b>
Total (pounds)	0.01997	0.42581	0.45086	0.036618782	0.22115079	1.97418	0.18212	1.96878	0.97630	0.03662	<b>6.29241</b>
	<b>Haul Truck</b>	<b>Vendor Truck</b>	<b>Worker</b>	<b>Total</b>							
Site Preparation 2023 (Site Work)	525.00	60.00	0.00	585.00							
Grading 2023 (Site Work)	700.00	70.00	291.67	1061.67							
Grading 2024 (Site Work)	780.00	78.00	325.00	1183.00							
Paving 2024 (Site Work)	825.00	110.00	0.00	935.00							
Building Construction 2023 (Home Construction)	1576.44	468.12	58.00	2102.56							
Building Construction 2024 (Home Construction)	14242.32	4229.18	524.00	18995.50							
Building Construction 2025 (Home Construction)	14187.96	4213.04	522.00	18923.00							
Building Construction 2026 (Home Construction)	7012.44	2082.31	258.00	9352.75							
Paving 2024 (Home Construction)	825.00	110.00	110.00	1045.00							
Architectural Coating 2026 (Home Construction)	597.96	110.00	0.00	707.96							
<b>Total</b>	<b>41272.12</b>	<b>11530.63</b>	<b>2088.67</b>	<b>54891.42</b>							
	<b>Haul Truck</b>	<b>Vendor Truck</b>	<b>Worker</b>	<b>Total</b>							
	<b>(pounds)</b>	<b>(pounds)</b>	<b>(pounds)</b>	<b>(pounds)</b>							
<b>Total DPM</b>	4.731E+00	1.322E+00	2.394E-01	6.292E+00							
<b>Average Emissions</b>											
Grams	2.148E+03	6.001E+02	1.087E+02								
Grams/sec	2.481E-05	6.932E-06	1.256E-06								
Default Distance	20	6.8	7.7	Default Vehicle Travel Distance in CalEEMod							
<b>Vehicle Travel Distances in the Construction HRA (miles)</b>											
Road Segment 1 (mi)	1.08	1.08	1.08	miles							
<b>Trip Distribution (percent)</b>											
Off-site Road Segment 1	100.0%	100.0%	100.0%	off-site							
<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>											
Off-site Road Segment 1	1.340E-06	1.101E-06	1.761E-07	<b>Total</b> 2.617E-06							
	Grams/sec	Pounds/Hour	Pounds/Day	Pounds/year	Tons/year						
Off-site Road Segment 1	2.617E-06	2.077E-05	4.984E-04	1.819E-01	9.096E-05						

# Health Risk Summary - Unmitigated Construction (Summary of HARP2 Results)

## Cameron Creek Residential Project (Mitigated Construction - Level 3 Filters)

	RISK_SUM	Cancer Risk/million	MAXHI NonCancer Chronic	MAXHI Acute
Maximum Risk	5.4624E-06	5.46	2.9425E-03	0.00E+00

X Y  
 MEI UTM 301039.20 4019403.10  
 Lat/Long 36°17'56.8"N 119°12'56.8"W  
 Receptor # 509

\*HARP - HRACalc v22118 6/19/2023 7:47:09 PM - Cancer Risk - Input File: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level 3 Filters)HRAInput.hra

\*HARP - HRACalc v22118 6/19/2023 7:47:09 PM - Chronic Risk - Input File: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level 3 Filters)HRAInput.hra

\*HARP - HRACalc v22118 6/19/2023 7:47:09 PM - Acute Risk - Input File: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level 3 Filters)HRAInput.hra















HARP2 - HRACalc (dated 22118) 6/19/2023 7:47:09 PM - Output Log

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: All  
Calculation Method: HighEnd

\*\*\*\*\*  
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 2.75

Exposure Duration Bin Distribution  
3rd Trimester Bin: 0.25  
0<2 Years Bin: 2  
2<9 Years Bin: 0.75  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*  
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: True

Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

#### INHALATION

Daily breathing rate: LongTerm24HR

\*\*Worker Adjustment Factors\*\*

Worker adjustment factors enabled: NO

\*\*Fraction at time at home\*\*

3rd Trimester to 16 years: OFF

16 years to 70 years: OFF

\*\*\*\*\*

#### SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02

Soil mixing depth (m): 0.01

Dermal climate: Mixed

\*\*\*\*\*

#### HOMEOWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden

Fraction leafy: 0.137

Fraction exposed: 0.137

Fraction protected: 0.137

Fraction root: 0.137

\*\*\*\*\*

#### TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|



Calculating cancer risk

Cancer risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3  
Filters\hra\CC Mit Con (Level 3 Filters)CancerRisk.csv

Cancer risk total by receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level  
3 Filters)CancerRiskSumByRec.csv

Calculating chronic risk

Chronic risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3  
Filters\hra\CC Mit Con (Level 3 Filters)NCChronicRisk.csv

Chronic risk total by receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level  
3 Filters)NCChronicRiskSumByRec.csv

Calculating acute risk

Acute risk breakdown by pollutant and receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3  
Filters\hra\CC Mit Con (Level 3 Filters)NCAcuteRisk.csv

Acute risk total by receptor saved to: F:\Move\0014-033\HARP\03 - Mit Con L3 Filters\hra\CC Mit Con (Level 3  
Filters)NCAcuteRiskSumByRec.csv

HRA ran successfully

# **Health Risk Screening**

## **Operational Screening Calculations and Prioritization**

**Diesel PM Screening**

**Prioritization Calculator**

<b>Applicability</b>	Use to provide a Prioritization score based on the emission potency method. Entries required in yellow areas, output in grey areas.		
<i>Author (Prioritization Calculator)</i>	Matthew Cegielski	<i>Last Update</i>	October 13, 2016
<i>Date Updated with Project Emissions</i>	June 18, 2023		
<b>Facility:</b>	Cameron Creek Residential Project (Operational Diesel PM Screening Analysis)		
<b>ID#:</b>	-		
<b>Project #:</b>	Truck Run and Idle Emissions		
<b>Unit and Process#</b>	Mobile Source Diesel (Trucks Visiting the Residential Project)		

<b>Operating Hours hr/yr</b>	4,196.48	(operating hours assumed based on idle hours)			
<b>Receptor Proximity and Proximity Factors</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute</b>	<b>Max Score</b>	Receptor proximity is in meters. Prioritization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.
	<b>Score</b>	<b>Score</b>	<b>Score</b>	<b>Score</b>	
<b>0 &lt; R &lt; 100 1.000</b>	2.63E+00	8.13E-03	0.00E+00	2.63E+00	
<b>100 ≤ R &lt; 250 0.250</b>	6.57E-01	2.03E-03	0.00E+00	6.57E-01	
<b>250 ≤ R &lt; 500 0.040</b>	1.05E-01	3.25E-04	0.00E+00	1.05E-01	
<b>500 ≤ R &lt; 1000 0.011</b>	2.89E-02	8.94E-05	0.00E+00	2.89E-02	
<b>1000 ≤ R &lt; 1500 0.003</b>	7.88E-03	2.44E-05	0.00E+00	7.88E-03	
<b>1500 ≤ R &lt; 2000 0.002</b>	5.25E-03	1.63E-05	0.00E+00	5.25E-03	
<b>2000 &lt; R 0.001</b>	2.63E-03	8.13E-06	0.00E+00	2.63E-03	

<b>Mobile Source Diesel (Trucks Visiting the Residential Project)</b>	Enter the unit's CAS# of the substances emitted and their amounts.	Prioritization score for each substance generated below. Totals on last row.
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<b>Substance</b>	<b>CAS#</b>	<b>Annual Emissions (lbs/yr)</b>	<b>Maximum Hourly (lbs/hr)</b>	<b>Average Hourly (lbs/hr)</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute</b>
Diesel engine exhaust, particulate matter (Diesel PM)	9901	1.14E+00	9.49E-04	2.71E-04	2.63E+00	8.13E-03	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Totals</b>					<b>2.63E+00</b>	<b>8.13E-03</b>	<b>0.00E+00</b>

## Cameron Creek Residential Project—Health Risk Screening Analysis for Project Operations

### Diesel Truck Trips

Trucks Onsite Daily	Average Daily Truck Trips
22.99	45.99

### Heavy Truck Trips

#### Truck Assumptions

Trucks Onsite per Day	22.99
Trucks Onsite per Year	8,393.0
Idling Events per Truck per day	2
Idling Time per Event (minutes)	15
Idling Minutes/Year	251,789
Idling Hours/Year	4,196

	Truck Entering	Trucks Exiting	Total
Average Travel Distance Onsite (ft) (0.25 mile on-site and 0.25 mile off-site assumed for this localized assessment - residential project)	660	660	1,320

	Miles/Trip	Truck Trips/Year	Miles/Year
Offsite Miles Estimate	0.25	16,785.9	4,196.5

	Distance Onsite (ft) in and out	Distance to Receptor Meters	Direction to Receptor	Idling Emissions (lbs/year)	Running Emissions (lbs/yr)	Total Truck Emissions (lbs/year)	Grand Total (lbs/yr)	Average Lbs/Day	Max Lbs/Day*	Max lbs/Hr
						1,320	<100 M	All	0.39	0.74
Emissions										

\*Max daily assumed to be 3 times the daily average. Max hr based on 12 hrs/day

### Running Emission Calculations

#### EMFAC2021 Rates

Idling Emission Rate for Diesel g/day	0.48759
g/lb conversion factor	0.00220
HDT Onsite Running Emissions 5 mph g/mile	0.11988
HDT Running Emissions Onroad 5-25 mph	0.04112

### EMFAC2021 PM10 running emissions Aggregated Fleet Age in 2024

#### EMFAC2021 Average Running Emissions

	PM10_RUNEX 5-25 MPH	PM10 RUNEX 5 MPH
Weighted Averages (Based on Project Fleet)	0.04112	0.11988

	Distance (Feet)	Distance (Miles)	Miles/Year/Truck	Trucks/Day	Emission Rate (g/mi)	Emissions g/year	Emission lbs/year	Emissions lbs/hour
Onsite Running Emissions	1,320.00	0.25	91.3	23.0	0.11988	251.54	0.55	0.0001266

	Distance (Feet)	Miles/ Round Trip	Miles/Year/Truck	Trucks/Day	Emissions Rate (g/mi)	Emissions g/year	Emission lbs/year	Emissions lbs/hour
Offsite Running Emissions	1,320.00	0.25	91.25	23.0	0.04112	86.27	0.19	4.342E-05

**Total Running 0.74475 0.00017**

### Total Emissions

	Lbs/Year	Max Lbs/Hours
Onsite Running Emissions	0.5546	0.0001266
Offsite Running Emissions	0.1902	0.0000434
Idling Emissions	0.3924	0.0007788
<b>Total</b>	<b>1.1371073</b>	<b>0.0009489</b>

### Health Risk Prioritization Results (Receptor 0-100 M)

	Cancer Score	Chronic Score	Acute Score
Prioritization Score Truck Run and Idle	2.62672	0.00813	0.00000

**Operational Fuel Calculation—Project-generated Operational Trips**

**Daily Truck Trips**

Cameron Creek Residential Project - Buildout Year Operations

Residential Trips per Day	Weekday 1,474	Saturday 1,474	Sunday 1,474	Total Average Daily Trips <b>1,474</b>
---------------------------	------------------	-------------------	-----------------	--

**By Vehicle Type (Average Fleet Mix for the 2024 Operational Year by Land Use)**

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Residential	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
Daily Trips													
Residential	777.8298	308.0660	246.8950	81.9544	1.3266	1.3266	11.7920	31.5436	0.0000	6.3382	3.6850	0.2948	2.9480
<b>Project Total</b>	<b>777.8298</b>	<b>308.0660</b>	<b>246.8950</b>	<b>81.9544</b>	<b>1.3266</b>	<b>1.3266</b>	<b>11.7920</b>	<b>31.5436</b>	<b>0.0000</b>	<b>6.3382</b>	<b>3.6850</b>	<b>0.2948</b>	<b>2.9480</b>

Heavy Trucks Only	Trips/Day	Truck Fleet	Truck Fleet
LHD1	1.327	0.028846	2.884615
LHD2	1.327	0.028846	2.884615
MHD	11.792	0.256410	25.641026
HHD	31.544	0.685897	68.589744
<b>Heavy Trucks Total</b>	<b>45.989</b>	<b>1.000000</b>	<b>100.000000</b>

**On-site Truck Running and Idling Emissions for the Health Risk Screening Analysis—Cameron Creek Residential Project**

Source: EMFAC2021 (v1.0.2) Emission Rates

Region Type: County

Region: Tulare

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed, kWh/mile for Energy Consumption, gallon/mile for Fuel Consumption. PHEV calculated based on total VMT.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
Tulare	2024	HHDT	Aggregate	5	Diesel	468.4285514	21.17597463	0.13586553	0.142008766	3496.905457	0.029539877	0.560938879	0.635985455	0.724021028	1.380148017	0.033113604
Tulare	2024	HHDT	Aggregate	10	Diesel	5372.627085	9.839894229	0.026463682	0.027660253	3094.63276	0.006460053	0.487560652	0.139083171	0.158335603	0.757091629	0.029304322
Tulare	2024	HHDT	Aggregate	15	Diesel	11784.34764	5.974288551	0.011994524	0.012536863	2477.165163	0.002341856	0.39027838	0.050419523	0.057398789	0.405233079	0.023457273
Tulare	2024	HHDT	Aggregate	20	Diesel	23079.04758	4.025631949	0.007690304	0.008038025	2113.893539	0.00137324	0.333044788	0.029565488	0.033658057	0.287954704	0.020017308
Tulare	2024	HHDT	Aggregate	25	Diesel	13956.89518	3.617973968	0.008484829	0.008868475	1919.127622	0.001072103	0.302359338	0.023082091	0.026277204	0.219746656	0.018172991
			Total			44.63376333	0.190498869	0.008484829	0.008868475	13101.72454	0.04078713	2.064182037	0.878135729	0.999690682	3.051074086	0.124065497
Tulare	2024	LHDT1	Aggregate	5	Diesel	5022.777203	2.96296712	0.12024578	0.125682761	1210.968974	0.024931056	0.190788655	0.536750963	0.611055286	1.739976313	0.011474546
Tulare	2024	LHDT1	Aggregate	10	Diesel	16703.02347	2.757634841	0.097919288	0.102346764	1047.701932	0.020267618	0.165065866	0.436349882	0.49675533	1.38163301	0.009927508
Tulare	2024	LHDT1	Aggregate	15	Diesel	36173.96378	2.584276847	0.08030452	0.083935534	872.5912269	0.016689399	0.137477103	0.359312943	0.409053897	1.106713079	0.008268245
Tulare	2024	LHDT1	Aggregate	20	Diesel	39658.34844	2.43547052	0.066068665	0.069055997	753.9126512	0.013845043	0.118779245	0.298075615	0.33933927	0.889090784	0.007143706
Tulare	2024	LHDT1	Aggregate	25	Diesel	42445.01301	2.323073091	0.054460277	0.056922729	655.3377044	0.01153645	0.103248722	0.248372972	0.282756115	0.714233	0.006209658
			Total			13.06342242	0.41899853	0.437943785	4540.512489	0.087269566	0.715359592	1.878862374	2.138959898	5.831646186	0.043023663	
Tulare	2024	LHDT2	Aggregate	5	Diesel	1756.511464	2.646751961	0.104340118	0.109057915	1442.816856	0.021570989	0.227316383	0.464410686	0.52870069	1.501488037	0.013671423
Tulare	2024	LHDT2	Aggregate	10	Diesel	5841.201193	2.42415259	0.085704722	0.089579909	1258.319819	0.017797171	0.1982488	0.383162619	0.436205167	1.203555204	0.01192322
Tulare	2024	LHDT2	Aggregate	15	Diesel	12650.36841	2.233734655	0.070778448	0.073978735	1064.201296	0.014841402	0.167665348	0.319526641	0.363759837	0.969501013	0.010083848
Tulare	2024	LHDT2	Aggregate	20	Diesel	13868.88983	2.069044193	0.058567663	0.061215832	920.3463345	0.012446869	0.14500094	0.267973771	0.305070322	0.780504347	0.008720749
Tulare	2024	LHDT2	Aggregate	25	Diesel	14843.4121	1.940159569	0.048512149	0.050705654	799.8306102	0.010468783	0.126013638	0.225386738	0.256587817	0.62609547	0.007578802
			Total			11.31384297	0.3679031	0.384538045	5485.514915	0.077125214	0.864245109	1.660460456	1.890323834	5.081144071	0.051978042	
Tulare	2024	MHDT	Aggregate	5	Diesel	394.7048632	9.306292537	0.058611292	0.061261434	2374.719806	0.015357772	0.374138073	0.331036144	0.376859451	0.580617579	0.022487177
Tulare	2024	MHDT	Aggregate	10	Diesel	4527.712292	3.781262882	0.04633684	0.048431986	2000.64768	0.009324524	0.315202857	0.200754437	0.228543645	0.456511155	0.018944937
Tulare	2024	MHDT	Aggregate	15	Diesel	7887.855438	2.369144866	0.030021827	0.031379281	1573.0734	0.004703618	0.247838355	0.101267596	0.11528545	0.295096533	0.014896064
Tulare	2024	MHDT	Aggregate	20	Diesel	10385.323	1.796341551	0.01914673	0.02001246	1338.697471	0.00228569	0.210912332	0.049210287	0.056022166	0.211793953	0.012676665
Tulare	2024	MHDT	Aggregate	25	Diesel	14295.81924	1.503647128	0.014832723	0.015503393	1205.196736	0.001634053	0.189879237	0.035180708	0.040050558	0.16940122	0.011412492
			Total			18.75668897	0.168949412	0.176588555	8492.335094	0.033323656	1.337970852	0.717449173	0.81676127	1.71342044	0.080417335	

Running Emissions 5-25 MPH Averaged

	NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
HHDT	8.9268	0.0381	0.0398	2620.3449	0.0082	0.4128	0.1756	0.1999	0.6100	0.0248
LHDT1	2.6127	0.0838	0.0876	908.1025	0.0175	0.1431	0.3758	0.4278	1.1663	0.0086
LHDT2	2.2628	0.0736	0.0769	1097.1030	0.0154	0.1728	0.3321	0.3781	1.0162	0.0104
MHDT	3.7513	0.0338	0.0353	1698.4670	0.0067	0.2676	0.1435	0.1634	0.3427	0.0161

HHDT	LHDT1	LHDT2	MHDT
Localized Miles per Trip	0.50	0.50	0.50
Daily Trucks	15.77	0.66	5.90
Daily Trips	31.54	1.33	11.79

**Onsite Truck**

Max Daily Emissions	ROG	NOx	CO	SO2	PM10	PM2.5
HHDT (g/day)	2.7700	140.7910	9.6213	0.3913	0.6281	0.6009
LHDT1 (g/day)	0.2492	1.7330	0.7736	0.0057	0.0581	0.0556
LHDT2 (g/day)	0.2203	1.5009	0.6741	0.0069	0.0510	0.0488
MHDT (g/day)	0.8460	22.1179	2.0205	0.0948	0.2082	0.1992
Total Trucks (g/day)	4.0855	166.1427	13.0895	0.4988	0.9454	0.9045
Running Emissions lbs/day	0.0090	0.3663	0.0289	0.0011	0.0021	0.0020
Idling Emissions lbs/Day	0.228	2.878	553.183	0.005	0.002	0.002
Total Emissions/Day	<b>0.237</b>	<b>3.244</b>	<b>553.212</b>	<b>0.0063</b>	<b>0.004</b>	<b>0.004</b>

g/lb conversion factor 0.00220

Idling Minutes/Day Per Truck	15
Max Trucks per Day	22.99
Number Idling Trucks per Day	22.99
Max Trucks per Day—HHDT	15.77
Max Trucks per Day—LHDT1	0.66
Max Trucks per Day—LHDT2	0.66
Max Trucks per Day—MHDT	5.90

Idling Emissions	Calendar Year	Season	Region	Vehicle Category	Fuel	Pollutant	g/vehicle/day	g/day	Max lbs/day
IDLEX	2024	Annual	Tulare	HHDT	Diesel	ROG	6.4603	101.8904	0.224630
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	ROG	0.1098	0.0728	0.000161
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	ROG	0.1098	0.0728	0.000161
IDLEX	2024	Annual	Tulare	MHDT	Diesel	ROG	0.2711	1.5985	0.003524
IDLEX	2024	Annual	Tulare	HHDT	Diesel	NOx	77.6812	1,225.1731	2.701045
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	NOx	2.2809	1.5129	0.003335
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	NOx	2.2341	1.4819	0.003267
IDLEX	2024	Annual	Tulare	MHDT	Diesel	NOx	13.1138	77.3187	0.170459
IDLEX	2024	Annual	Tulare	HHDT	Diesel	CO	15060.8078	237,536.0481	523.677435
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	CO	136.4864	90.5314	0.199588
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	CO	218.0335	144.6216	0.318836
IDLEX	2024	Annual	Tulare	MHDT	Diesel	CO	2230.0415	13,148.3245	28.987099
IDLEX	2024	Annual	Tulare	HHDT	Diesel	SO2	0.1426	2.2493	0.004959
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	SO2	0.0013	0.0009	0.000002
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	SO2	0.0021	0.0014	0.000003
IDLEX	2024	Annual	Tulare	MHDT	Diesel	SO2	0.0211	0.1245	0.000274
IDLEX	2024	Annual	Tulare	HHDT	Diesel	PM10	0.0395	0.6234	0.001374
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	PM10	0.0276	0.0183	0.000040
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	PM10	0.0276	0.0183	0.000040
IDLEX	2024	Annual	Tulare	MHDT	Diesel	PM10	0.0390	0.2298	0.000507
IDLEX	2024	Annual	Tulare	HHDT	Diesel	PM2.5	0.0378	0.5965	0.001315
IDLEX	2024	Annual	Tulare	LHDT1	Diesel	PM2.5	0.0264	0.0175	0.000039
IDLEX	2024	Annual	Tulare	LHDT2	Diesel	PM2.5	0.0264	0.0175	0.000039
IDLEX	2024	Annual	Tulare	MHDT	Diesel	PM2.5	0.0373	0.2198	0.000485

For Weighted Average for Project (5-25 MPH)

	NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
Weighted Average Using Project Truck Fleet Percentages										
HHDT	8.926752666	0.038099774	0.039822476	2620.344908	0.008157426	0.412836407	0.175627146	0.199938136	0.610034817	0.024813099
LHDT1	2.612684484	0.083799706	0.087588757	908.1024978	0.017453913	0.143071918	0.375772475	0.42779198	1.166329237	0.008604733
LHDT2	2.262768594	0.07358062	0.076907609	1097.102983	0.015425043	0.172849022	0.332092091	0.378064767	1.016228814	0.010395608
MHDT	3.751337793	0.033789882	0.035317711	1698.467019	0.006664731	0.26759417	0.143489835	0.163352254	0.342684088	0.016083467
HHDT	140.7909577	0.600902011	0.628072134	41327.55582	0.128657292	6.51117325	2.769956217	3.1533843	9.621347129	0.39134724
LHDT1	1.732993618	0.055584345	0.058097622	602.3443868	0.011577181	0.094899603	0.249249883	0.28375442	0.773626183	0.005707519
LHDT2	1.500894408	0.048806025	0.051012817	727.7084086	0.010231431	0.114650756	0.220276684	0.25077036	0.674064572	0.006895407
MHDT	22.11788763	0.199225147	0.208233224	10014.16154	0.039295255	1.577735229	0.846016064	0.963124889	2.020465383	0.094828121
Total	166.1427333	0.904517529	0.945415798	52671.77016	0.189761159	8.298458839	4.085498848	4.651033969	13.08950327	0.498778288
Weighted Average	7.225356319	0.039336427	0.041115045	2290.634683	0.008252494	0.360890427	0.177673644	0.202268116	0.569247437	0.021691294
Max Trucks per Day—HHDT	15.77									
Max Trucks per Day—LHDT1	0.66									
Max Trucks per Day—LHDT2	0.66									
Max Trucks per Day—MHDT	5.90									
Total	22.99									

For Weighted Average for Project (5 MPH)

	NOx_RUNEX	PM2.5_RUNEX	PM10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	SOx_RUNEX
Weighted Average Using Project Truck Fleet Percentages										
HHDT	21.17597463	0.13586553	0.142008766	3496.905457	0.029539877	0.550938879	0.635985455	0.724021028	1.380148017	0.033113604
LHDT1	2.96296712	0.12024578	0.125682761	1210.968974	0.024931056	0.190788655	0.536750963	0.611055286	1.739976313	0.011474546
LHDT2	2.646751961	0.104340118	0.109057915	1442.816856	0.021570989	0.227316383	0.464410686	0.52870069	1.501488037	0.013671423
MHDT	9.306292537	0.058611292	0.061261434	2374.719806	0.015375772	0.374138073	0.331036144	0.376859451	0.580617579	0.022487177
HHDT	333.9832367	2.142843959	2.239733854	55152.49348	0.465897035	8.689297809	10.0306354	11.41911486	21.7674185	0.522261133
LHDT1	1.96533609	0.079759026	0.083365375	803.2357207	0.01653677	0.126550115	0.356026914	0.405312971	1.154126289	0.007611067
LHDT2	1.755590575	0.0692088	0.072338115	957.0204204	0.014308037	0.150778957	0.308043608	0.350687168	0.995937015	0.009068255
MHDT	54.8699008	0.345572176	0.361197417	14001.34798	0.090655549	2.205918076	1.951789107	2.221963326	3.423321244	0.132584393
Total	392.5740642	2.637383962	2.756634761	70914.0976	0.58739739	11.17254496	12.64649503	14.39707832	27.34080305	0.671524847
Weighted Average	17.07259438	0.114696794	0.119882874	3083.972515	0.025545237	0.485881126	0.549981518	0.626112372	1.189020068	0.029203843
Max Trucks per Day—HHDT	15.77									
Max Trucks per Day—LHDT1	0.66									
Max Trucks per Day—LHDT2	0.66									
Max Trucks per Day—MHDT	5.90									
Total	22.99									

For Weighted Average for Project (Idle)

	PM10_IDLEX (g/d)
Weighted Average Using Project Truck Fleet Percentages	
HHDT	0.623444171
LHDT1	0.018314927
LHDT2	0.018320405
MHDT	0.22978082
HHDT	9.83283677
LHDT1	0.012148291
LHDT2	0.012151925
MHDT	1.354787715
Total	11.2119247
Weighted Average	0.487593705



# **ATTACHMENT C**

## **Energy Consumption Calculations**

## **Cameron Creek Residential Project—Energy Consumption Summary**

### **Summary of Energy Use During Construction**

(Annually)

Construction vehicle fuel	28,251 gallons (gasoline, diesel)
Construction equipment fuel	44,944 gallons (diesel)
Construction office trailer electricity	38,145 kilowatt hours

### **Summary of Energy Use During Proposed Operations**

(Annually)

Operational vehicle fuel consumption	227,952 gallons (gasoline, diesel)
Operational natural gas consumption	5,513,161 kilo-British Thermal Units
Operational electricity consumption	1,341,856 kilowatt hours

**Construction Vehicle Fuel Calculations (Page 1 of 2)**

California Air Resource Board (CARB). 2022. EMFAC2021 Web Database. Website: <https://arb.ca.gov/emfac/emissions-inventory>. Accessed June 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory  
 Region Type: County  
 Region: Tulare  
 Calendar Year: 2023  
 Season: Annual  
 Vehicle Classification: EMFAC2007 Categories  
 Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled  
 FE = Fuel Economy

Given							Calculations			
Region	Calendar Year	Vehicle Class	Model Year	Speed	Population	VMT (mi/day)	Fuel Consumption (1000 gallons/day)	FE (mi/gallon)	VMT*FE	
Tulare	2023	HHDT	Aggregate	Aggregate	Gasoline	1.549706545	46.29335	0.014304312	149.820138	
Tulare	2023	HHDT	Aggregate	Aggregate	Diesel	5221.841851	738312.9	5.8789524	4340506.5	
Tulare	2023	LDA	Aggregate	Aggregate	Gasoline	158118.5856	6491689	29.5526718	191846765	
Tulare	2023	LDA	Aggregate	Aggregate	Diesel	384.1498923	12142.55	43.3131127	525931.801	
Tulare	2023	LDT1	Aggregate	Aggregate	Gasoline	15857.34961	513272.5	24.0496889	12344042.9	
Tulare	2023	LDT1	Aggregate	Aggregate	Diesel	10.65169612	178.9854	25.5384492	4571.00969	
Tulare	2023	LDT2	Aggregate	Aggregate	Gasoline	67885.93744	2693221	23.6494272	63693139.5	
Tulare	2023	LDT2	Aggregate	Aggregate	Diesel	166.1984147	7236.236	32.9405336	238365.463	
Tulare	2023	LHDT1	Aggregate	Aggregate	Gasoline	7343.520045	256425.3	9.14019686	2343777.72	
Tulare	2023	LHDT1	Aggregate	Aggregate	Diesel	8303.000876	296659.9	15.7843924	4682596.73	
Tulare	2023	LHDT2	Aggregate	Aggregate	Gasoline	1118.532738	38674.93	8.11952387	314022.052	
Tulare	2023	LHDT2	Aggregate	Aggregate	Diesel	2789.634453	102156.2	12.9687539	1324838.93	
Tulare	2023	MDV	Aggregate	Aggregate	Gasoline	78873.28042	2872063	19.0041417	54581088.5	
Tulare	2023	MDV	Aggregate	Aggregate	Diesel	1210.67366	48889.9	24.1631567	1181334.21	
Tulare	2023	MHDT	Aggregate	Aggregate	Gasoline	405.111362	18171.8	4.6302926	84140.7304	
Tulare	2023	MHDT	Aggregate	Aggregate	Diesel	3939.626747	186485.7	8.65315289	1613689.08	

**Worker**  
**Weighted Average Fuel Economy 25.6684157**

**Vendor**  
**Weighted Average Fuel Economy 8.98248183**

**Haul**  
**Weighted Average Fuel Economy 5.87878671**

**Construction Vehicle Fuel Calculations (Page 2 of 2)**

**Construction Schedule**

Source: CalEEMod Output  
Cameron Creek Residential Project

CalEEMod Run	Phase Name	Start Date	End Date	Num Days	
				Week	Num Days
Site Work	Site Preparation	10/2/2023	11/10/2023	5	30
Site Work	Grading	11/11/2023	2/23/2024	5	75
Site Work	Paving	2/24/2024	5/10/2024	5	55
Home Construction	Building Construction	11/21/2023	6/30/2026	5	681
Home Construction	Paving	5/11/2024	7/26/2024	5	55
Home Construction	Architectural Coating	4/15/2026	6/30/2026	5	55

**Construction Trips and VMT**

Phase Name	Trips per Day			Construction Trip Length in Miles			Number of Days per Phase	Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length		Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips
Site Preparation	17.50	2.00	0.00	7.7	6.8	20	30	525	60	0	4,043	408	0	157.49	45.42	0.00
Grading	20.00	2.00	8.33	7.7	6.8	20	75	1,500	150	625	11,550	1,020	12,500	449.97	113.55	2,126.29
Paving (Site Work)	15.00	2.00	0.00	7.7	6.8	20	55	825	110	0	6,353	748	0	247.48	83.27	0.00
Building Construction	54.36	16.14	2.00	7.7	6.8	20	681	37,019	10,993	1,362	285,048	74,750	27,240	11,104.99	8,321.74	4,633.61
Paving (Homes)	15.00	2.00	2.00	7.7	6.8	20	55	825	110	110	6,353	748	2,200	247.48	83.27	374.23
Architectural Coating	10.87	2.00	0.00	7.7	6.8	20	55	598	110	0	4,604	748	0	179.38	83.27	0.00

Total Project Construction VMT (miles)  
**438,311**

Total Project Fuel Consumption (gallons)  
**28,251**

**Construction Equipment Fuel Calculation (Page 1 of 2)**

Source: CalEEMod Output  
 Cameron Creek Residential Project  
**Construction Schedule**

Construction Area	Phase Type	Start Date	End Date	Num Days Week	Num Days
Site Work	Site Preparation	10/2/2023	11/10/2023	5	30
Site Work	Grading	11/11/2023	2/23/2024	5	75
Site Work	Paving	2/24/2024	5/10/2024	5	55
Home Construction	Building Construction	11/21/2023	6/30/2026	5	681
Home Construction	Paving	5/11/2024	7/26/2024	5	55
Home Construction	Architectural Coating	4/15/2026	6/30/2026	5	55

**Construction Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	Fuel (gallons/HP- hour)	Diesel Fuel Usage
<b>Site Work</b>									
Site Preparation	Rubber Tired Dozers	3	8	367	0.40	30	105,696.00	0.02051	2,168.17
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	30	29,836.80	0.01903	567.69
Grading	Excavators	2	8	36	0.38	75	16,416.00	0.01976	324.34
Grading	Graders	1	8	148	0.41	75	36,408.00	0.02121	772.39
Grading	Rubber Tired Dozers	1	8	367	0.40	75	88,080.00	0.02051	1,806.81
Grading	Scrapers	2	8	423	0.48	75	243,648.00	0.02489	6,063.61
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	75	37,296.00	0.01903	709.62
Paving	Pavers	2	8	81	0.42	55	29,937.60	0.02153	644.47
Paving	Paving Equipment	2	8	89	0.36	55	28,195.20	0.01833	516.89
Paving	Rollers	2	8	36	0.38	55	12,038.40	0.01940	233.60
<b>Home Construction</b>									
Building Construction	Cranes	1	7.7	367	0.29	681	558,086.99	0.01488	8,307.04
Building Construction	Forklifts	3	8.8	82	0.20	681	294,845.76	0.02080	6,134.18
Building Construction	Generator Sets	1	8.8	14	0.74	681	62,085.41	0.04236	2,629.79
Building Construction	Tractors/Loaders/Backhoes	3	7.7	84	0.37	681	488,922.59	0.01903	9,302.53
Building Construction	Welders	1	8.8	46	0.45	681	124,050.96	0.02585	3,206.20
Paving	Pavers	2	8	81	0.42	55	29,937.60	0.02153	644.47
Paving	Paving Equipment	2	8	89	0.36	55	28,195.20	0.01833	516.89
Paving	Rollers	2	8	36	0.38	55	12,038.40	0.01940	233.60
Architectural Coating	Air Compressors	1	6	37	0.48	55	5,860.80	0.02755	161.49

**Total Construction Equipment Fuel Consumption (gallons)**

**44,943.77**

Notes:

Equipment assumptions are provided in the CalEEMod output files.  
 Source of usage estimates: California Air Resource Board (CARB). 2022. OFFROAD2017 (v1.0.1) Emissions Inventory  
 Website: <https://www.arb.ca.gov/orion/>. Accessed May 1, 2023.

## Construction Equipment Fuel Calculation (Page 2 of 2)

OFFROAD2017 (v1.0.1) Emissions Inventory

Region Type: County

Region: Tulare

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2017 Equipment Types

Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	Vehicle Class	Model Year	HP_Bin	Fuel	Fuel (gallons/year)	Horsepower Hours (HP- hours/year)	Fuel (gallons/HP- hour)
Tulare	Construction and Mining - Cranes	Aggregated	300	Diesel	52657.02	3537623.55	0.014884857
Tulare	Construction and Mining - Excavators	Aggregated	175	Diesel	156561.57	7924249.90	0.019757273
Tulare	Construction and Mining - Graders	Aggregated	175	Diesel	95622.49	4507357.53	0.021214755
Tulare	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregated	25	Diesel	518.30	16275.35	0.031845705
Tulare	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregated	50	Diesel	266.45	6383.85	0.041738136
Tulare	Construction and Mining - Pavers	Aggregated	175	Diesel	20697.10	961439.23	0.021527205
Tulare	Construction and Mining - Paving Equipment	Aggregated	175	Diesel	8797.73	479896.07	0.018332574
Tulare	Construction and Mining - Rollers	Aggregated	100	Diesel	49945.72	2573962.80	0.019404212
Tulare	Construction and Mining - Rough Terrain Forklifts	Aggregated	100	Diesel	128035.04	6154134.12	0.020804721
Tulare	Construction and Mining - Rubber Tired Dozers	Aggregated	300	Diesel	6934.53	338050.60	0.020513278
Tulare	Construction and Mining - Scrapers	Aggregated	300	Diesel	57538.00	2311993.76	0.024886746
Tulare	Construction and Mining - Tractors/Loaders/Backhoes	Aggregated	300	Diesel	84418.90	4436891.50	0.019026586
Tulare	Light Commercial - Misc - Air Compressors	Aggregated	50	Diesel	8584.80	311560.35	0.027554212
Tulare	Light Commercial - Misc - Generator Sets	Aggregated	50	Diesel	23662.95	558647.10	0.042357599
Tulare	Light Commercial - Misc - Welders	Aggregated	50	Diesel	39441.90	1526043.10	0.025845862

## Construction Office Electricity Calculation

Energy Appendix: CalEEMod Typical Construction Trailer

Typical Construction Trailer - Tulare County, Annual

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	13,895	453	0.0330	0.0040	26,460

kWh/yr = kilowatt hours per year

### Energy by Land Use - Electricity

Annual 13,895 kWh/yr  
**Total Over Construction 38,145 kWh**

Total Construction Schedule

Start 10/2/2023  
End 6/30/2026  
Total Calendar Days 1002  
Years 2.75

**Cameron Creek Residential Project Operational Fuel Calculation—Project-generated Operational Trips**

California Air Resource Board (CARB). EMFAC2021. Website: <https://arb.ca.gov/emfac/emissions-inventory/>. Accessed June 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: County

Region: Tulare

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled

FE = Fuel Economy

						<i>Given</i>		<i>Calculations</i>			
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE	
Tulare	2024	LDA	Aggregate	Aggregate	Gasoline	158223.9536	6564398.587	217.9503163	30.1187844	197711705.8	
Tulare	2024	LDA	Aggregate	Aggregate	Diesel	359.7791844	11427.49529	0.260720464	43.83045018	500872.263	
									<b>Total VMT</b>	<b>6575826.082</b>	
									<b>Weighted Average Fuel Economy</b>	<b>30.14261259</b>	
Tulare	2024	LDT1	Aggregate	Aggregate	Gasoline	15208.02808	501766.3752	20.47746002	24.50335025	12294957.24	
Tulare	2024	LDT1	Aggregate	Aggregate	Diesel	9.512365454	157.9270553	0.006179901	25.55495069	4035.818112	
Tulare	2024	LDT2	Aggregate	Aggregate	Gasoline	69118.42037	2784413.872	114.7335565	24.26852227	67573610.07	
Tulare	2024	LDT2	Aggregate	Aggregate	Diesel	177.9591413	7851.285313	0.232582017	33.75706086	265036.3162	
Tulare	2024	MDV	Aggregate	Aggregate	Gasoline	76757.45305	2813740.835	145.4498692	19.34509017	54432070.16	
Tulare	2024	MDV	Aggregate	Aggregate	Diesel	1201.269385	47857.95304	1.963622376	24.37227932	1166407.399	
									<b>Total VMT</b>	<b>6155788.247</b>	
									<b>Weighted Average Fuel Economy</b>	<b>22.0501602</b>	
Tulare	2024	LHDT1	Aggregate	Aggregate	Gasoline	7112.717281	252436.4523	27.13505655	9.302963929	2348407.21	
Tulare	2024	LHDT1	Aggregate	Aggregate	Diesel	8035.272749	285635.962	18.07147636	15.80590076	4514733.669	
Tulare	2024	LHDT2	Aggregate	Aggregate	Gasoline	1081.046628	37535.93128	4.566392691	8.220040154	308546.8623	
Tulare	2024	LHDT2	Aggregate	Aggregate	Diesel	2738.705526	99889.5275	7.66820855	13.02644899	1301205.835	
Tulare	2024	MHDT	Aggregate	Aggregate	Gasoline	386.2093164	18095.21028	3.850685638	4.699217744	85033.33323	
Tulare	2024	MHDT	Aggregate	Aggregate	Diesel	4025.767481	189979.3326	21.84238522	8.69773748	1652390.362	
									<b>Total VMT</b>	<b>883572.416</b>	
									<b>Weighted Average Fuel Economy</b>	<b>11.55572207</b>	
Tulare	2024	HHDT	Aggregate	Aggregate	Gasoline	0.77933665	37.07212461	0.010342608	3.584407622	132.881606	
Tulare	2024	HHDT	Aggregate	Aggregate	Diesel	5376.747763	746360.1636	125.2227059	5.960262225	4448502.289	
									<b>Total VMT</b>	<b>746397.2357</b>	
									<b>Weighted Average Fuel Economy</b>	<b>5.960144221</b>	
Tulare	2024	OBUS	Aggregate	Aggregate	Gasoline	134.1612066	5486.442751	1.15917748	4.733048085	25967.59736	
Tulare	2024	OBUS	Aggregate	Aggregate	Diesel	100.3266669	7162.520336	1.021405443	7.012416457	50226.57548	
Tulare	2024	SBUS	Aggregate	Aggregate	Gasoline	136.7095355	7273.094092	0.75738058	9.602958249	69843.21891	
Tulare	2024	SBUS	Aggregate	Aggregate	Diesel	492.9532926	10878.8317	1.316028746	8.266408871	89928.87085	
Tulare	2024	UBUS	Aggregate	Aggregate	Gasoline	59.93560536	4217.171783	0.849811282	4.962480346	20927.63209	
Tulare	2024	UBUS	Aggregate	Aggregate	Diesel	14.35384626	1344.175169	0.100836322	13.33026779	17918.21497	
									<b>Total VMT</b>	<b>36362.23583</b>	
									<b>Weighted Average Fuel Economy</b>	<b>7.557624095</b>	
Tulare	2024	MCY	Aggregate	Aggregate	Gasoline	8231.591618	45554.38643	1.090806636	41.76210973	1902447.285	
									<b>Total VMT</b>	<b>45554.38643</b>	
									<b>Weighted Average Fuel Economy</b>	<b>41.76210973</b>	



**Operational Fuel Calculation—Project-generated Operational Trips**

**Total Operational VMT**

Cameron Creek Residential Project

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	1,474	1,474	1,474	538,010	14,708	14,708	14,708	5,368,440

**Annual VMT  
(miles)**

**Total VMT for Residential Uses 5,368,440**

**By Vehicle Type (Average Fleet Mix for the 2024 Operational Year for Residential Uses)**

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Residential	52.770000	20.900000	16.750000	5.560000	0.090000	0.090000	0.800000	2.140000	0.000000	0.430000	0.250000	0.020000	0.200000

	Fraction of 1	Percent of Vehicle Trips	Annual VMT	Daily VMT	Average Fuel Economy (miles/gallon)	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.5277	52.77	2,832,926	7,761	30.14	257.5	93,984
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.4321	43.21	2,319,703	6,355	22.05	288.2	105,201
LHDT1, LHDT2, and MHDT	0.0098	0.98	52,611	144	11.56	12.5	4,553
HHDT	0.0214	2.14	114,885	315	5.96	52.8	19,275
MCY	0.0025	0.25	13,421	37	41.76	0.9	321
Buses/Other	0.0065	0.65	34,895	96	7.56	12.6	4,617
Total	—	100.0	5,368,440	14,708		624.5	227,952

**Project Operations Natural Gas Use**

Source: CalEEMod Output

Cameron Creek Residential Project - Buildout Year Operations

kBTU/yr = kilo-British Thermal Units/year

**CalEEMod Land Use**

Single Family Housing

**Natural Gas Use (kBTU/yr)**

5,513,161

**Total**

**5,513,161 kBTU/yr**

## **Project Operations Electricity Use**

Source: CalEEMod Output

Cameron Creek Residential Project - Buildout Year Operations

kWh/yr = kilowatt hours per year

<b>CalEEMod Land Use</b>	<b>Electricity Use (kWh/yr)</b>	
Single Family Housing	1,341,856	
<b>Total</b>	<b>1,341,856</b>	<b>kWh/yr</b>

\*The estimates above account for total consumption and not demand after incorporation of renewable energy.

# Construction Trailer Custom Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Construction Trailer
Operational Year	2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	24.4
Location	36.300103, -119.218111
County	Tulare
City	Farmersville
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2757
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	0.72	1000sqft	0.02	720	0.00	—	—	—

## 2. Emissions Summary

### 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.06	0.45	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	91.9	91.9	< 0.005	< 0.005	0.41	93.7
Area	0.01	0.02	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	—	0.13
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.7	25.7	< 0.005	< 0.005	—	25.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.25	0.63	0.87	0.03	< 0.005	—	1.68
Waste	—	—	—	—	—	—	—	—	—	—	—	0.36	0.00	0.36	0.04	0.00	—	1.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.05	0.06	0.06	0.49	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.61	118	119	0.07	0.01	0.41	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04	0.04	0.06	0.36	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	84.0	84.0	< 0.005	< 0.005	0.01	85.5
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.7	25.7	< 0.005	< 0.005	—	25.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.25	0.63	0.87	0.03	< 0.005	—	1.68
Waste	—	—	—	—	—	—	—	—	—	—	—	0.36	0.00	0.36	0.04	0.00	—	1.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.04	0.05	0.07	0.36	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.61	110	111	0.07	0.01	0.01	114
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.03	0.05	0.28	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	65.3	65.3	< 0.005	< 0.005	0.13	66.5
Area	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.06	0.06	< 0.005	< 0.005	—	0.06

Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.7	25.7	< 0.005	< 0.005	—	25.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.25	0.63	0.87	0.03	< 0.005	—	1.68
Waste	—	—	—	—	—	—	—	—	—	—	—	0.36	0.00	0.36	0.04	0.00	—	1.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.03	0.05	0.05	0.30	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.61	91.7	92.3	0.07	< 0.005	0.13	95.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.02	11.0
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.26	4.26	< 0.005	< 0.005	—	4.28
Water	—	—	—	—	—	—	—	—	—	—	—	0.04	0.10	0.14	< 0.005	< 0.005	—	0.28
Waste	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.01	0.01	0.01	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.10	15.2	15.3	0.01	< 0.005	0.02	15.8

## 4. Operations Emissions Details

### 4.2. Energy

#### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.3

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2.86	2.86	< 0.005	< 0.005	—	2.87
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.86	2.86	< 0.005	< 0.005	—	2.87

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.48	8.48	< 0.005	< 0.005	—	8.50
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.48	8.48	< 0.005	< 0.005	—	8.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.48	8.48	< 0.005	< 0.005	—	8.50
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.48	8.48	< 0.005	< 0.005	—	8.50
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.40	1.40	< 0.005	< 0.005	—	1.41
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.40	1.40	< 0.005	< 0.005	—	1.41

## 5. Activity Data

### 5.11. Operational Energy Consumption

#### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	13,895	453	0.0330	0.0040	26,460

## 8. User Changes to Default Data

Appendix B  
Cultural Resources Survey

**A**  
**PHASE I CULTURAL RESOURCE SURVEY  
FOR CAMERON CREEK RESIDENTIAL PROJECT,  
CITY OF FARMERSVILLE, CALIFORNIA**

**Submitted to:**

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

**Keywords:**

Exeter 7.5' Quadrangle, City of Farmersville,  
California Environmental Quality Act

**Submitted by:**

*Hudlow Cultural Resource Associates*  
1405 Sutter Lane  
Bakersfield, California 93309

**Author:**

Scott M. Hudlow

**MAY 2023**

## Management Summary

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted on an exact 36.51-acre parcel, located at the northwest corner of Visalia Road and Virginia Avenue in the City of Farmersville, California. The Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

**One cultural resource was identified, which is an unrecorded portion of CA-TUL-003103H, the Tulare Irrigation District Canal. The Canal, prior to 1969, crossed the southeast corner of the parcel reaching and crossing Visalia Road near its current location. Between 1969 and 1984, the southeast section was abandoned and the canal was relocated to its current location, with a straight north/south direction, originating from the parcel's northern boundary, where another section of the Tulare Irrigation District Canal is located. Due to the modern right-of-way realignment, this section of the Tulare Irrigation District Canal is not eligible for nomination to the California Register of Historic Resources under Criteria 1-4. This section of the Tulare Irrigation District Canal is not associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1). This section of the Tulare Irrigation District Canal is not associated with the lives of persons important to local, California or national history (Criterion 2). This section of the Tulare Irrigation District Canal does not embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values (Criterion 3). Lastly, this section of the Tulare Irrigation District Canal will not yield, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).**

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

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

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## **1.0 Introduction**

At the request of Crawford and Bowen Planning, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey in accordance with the California Environmental Quality Act for a proposed residential development. The 36.51-acre property lies at the northwest corner of Visalia Road and Virginia Avenue in the City of Farmersville, California. The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

## **2.0 Project Location**

The project area, is in the City of Farmersville, California. It is a majority of the SE  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 1, T.19S., R.25E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Exeter 7.5-minute quadrangle map (Figure 1). The proposed residential development is located at the northwest corner of Visalia Road and Virginia Avenue in the City of Farmersville, California.

## **3.0 Record Search**

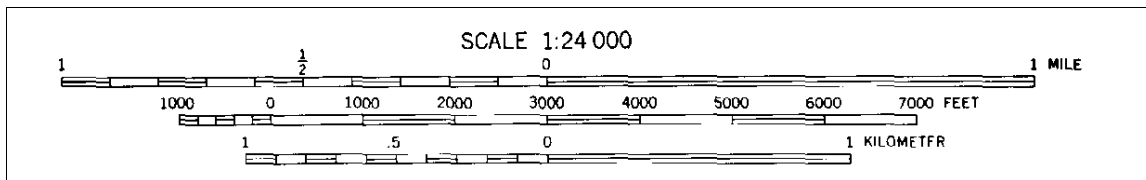
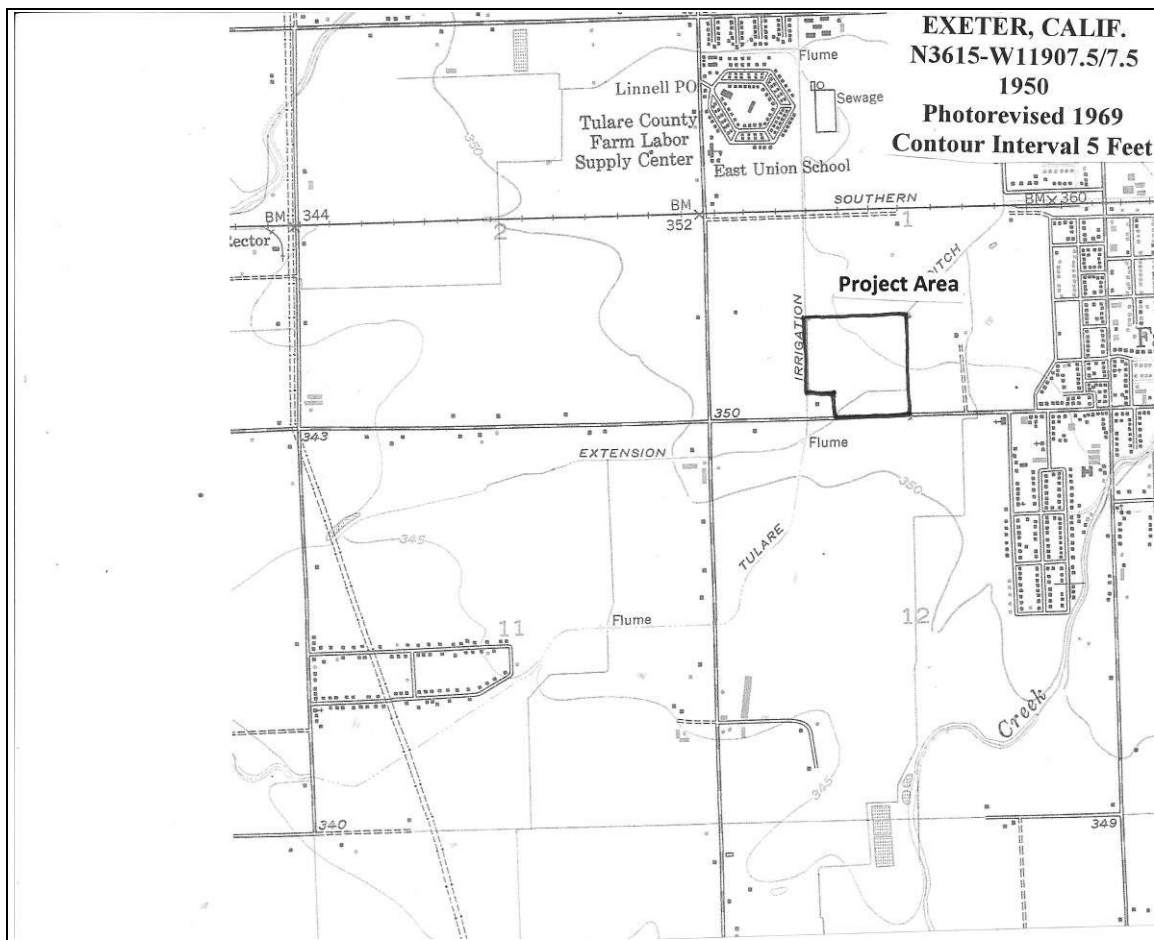
A record search of the project area and the environs within one half-mile was conducted at the Southern San Joaquin Information Center. Scott M. Hudlow conducted the record search, RS# 23-151 on April 25, 2023. The record search revealed that six cultural resource surveys have been conducted within one half-mile of the project area, including four projects that are adjacent to the current parcel. Three historic cultural resources, a historic railroad line, a historic canal, and a historic house are located within one half-mile of the current project area. No cultural resources have been previously identified within the current project area.

## **4.0 Environmental Background**

The project area is located at elevations between 350 and 355 feet above mean sea level in the Great Central Valley, which is composed of two valleys-the Sacramento Valley and the San Joaquin Valley. The parcel is located within the Kaweah River delta between Cameron and Deep Creeks. The lot is an almond orchard with grafted walnuts. No native vegetation survives; weeds and non-native grasses populate the rows between the almond trees (Figures 2 and 3).

## **5.0 Prehistoric Archaeological Context**

A limited amount of archaeological research has been conducted in the southern San Joaquin Valley. Thus, consensus on a generally agreed upon regional cultural chronology has yet to be developed. Most cultural sequences can be summarized into several distinct time periods: Early, Middle, and Late. Sequences differ in their inclusion of various "horizons," "technologies," or



**Figure 1**  
**Project Area Location Map**

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

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

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

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

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

The Archaic period persisted in California for the next 4000 years. In 1959, Warren and McKusiak proposed a three-phase chronological sequence based on a small sample of burial data for the Archaic period (Moratto 1984:189; Parr and Osborne 1992:47). It is distinguished by increased sedentism and extensive seed and plant exploitation. Millingstones, shaped through use, were





**Figure 2**  
**Project Area, View to the Southwest**

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

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

## **6.0 Ethnographic Background**

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

The southern San Joaquin Valley in the area northeast of Farmersville was home to the Yokuts tribelet, Wolase. The tribelet had approximately 550 people, had a special name for themselves, and spoke a unique dialect of the Yokuts language. Land was owned, collectively, and every group member enjoyed the right to utilize food resources. The Wolase occupied the area on the south side of the Kaweah River (Latta 1999).

The Southern Valley Yokuts had a mixed economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent resource and was a productive activity throughout the entire year. Fish were caught in many different manners, including nets, conical basket traps, catching with bare hands, shooting with bows and arrows, and stunning fish with mild floral toxins. Geese, ducks, mud hens and other waterfowl were caught in snares, long-handled nets, stuffed decoys, and brushing brush to trick the birds to fly low into waiting hunters. Mussels were gathered and steamed on beds of tule. Turtles and dogs were consumed (Wallace 1978:449-450).

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





**Figure 3**  
**Project Area, View to the South**

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

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

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

Tule dominated the Yokut's material culture. It was used for many purposes, including sleeping mats, wall coverings, cradles, and basketry. Ceramics are uncommon to Yokuts culture as is true throughout most California native cultures. Basketry was common to Yokuts culture. Yokuts made cooking containers, conical burden baskets, flat winnowing trays, seed beaters, and necked water bottles. Yokuts also manufactured wooden digging sticks, fire drills, mush stirrers, and sinew-backed bows. Knives, projectile points, and scraping tools were chipped from imported lithic materials including obsidian, chert, and chalcedony. Stone mortars and pestles were secured in trade. Cordage was manufactured from milkweed fibers, animal skins were tanned, and awls were made from bone. Marine shells, particularly olivella shells, were used in the manufacture of money and articles of personal adornment. Shells were acquired from the Chumash along the coast (Wallace 1978:451-453).

The basic social and economic unit was the nuclear family. Lineages were organized along patrilineal lines. Yokuts fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was an

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

## **7.0 Historical Overview**

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

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

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

The defeat of the Mexicans during the Mexican-American War and the subsequent discovery of gold will drastically alter the complicated political realities of the west. The Mexican-American War was ostensibly fought to settle a boundary dispute with the Mexicans over the western boundary of the newly-

annexed state of Texas, which had fought a successful rebellion against the Mexican Army in the mid 1830s. The Republic of Texas was an independent country for nine years until Texas was annexed by the United States in 1845. One major outcome of the Mexican-American War was that Mexico rescinded its claims to much of the American southwest. In 1848 these territories were folded into the United States, including California.

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

In 1852, Tulare County was created from the southern half of Mariposa County. The first county seat was at Woodsville; however, Visalia was established that same year, and became the county seat in 1853. Visalia and Tulare County began to grow as the miners, who were attracted to the small gold rush in the Kern River Valley, returned to the San Joaquin valley and began farming after the gold at Keyesville was played out.

While farmers were settling the valley, cattle ranchers, timber mill operators, and resort operators settled the heavily timbered highlands of the southern Sierra Mountains. Road builders, such as John Jordan, opened the mountains, following native (Yokuts) trails into the mountains. By 1865, timber mills were found in the general vicinity, and were responsible for opening areas for settlement and for providing lumber to fuel the local economy. Cattle ranchers and shepherds grazed their animals throughout the region until 1903, when the laws changed.

As access to the San Joaquin Valley was secured via new and better roads, the mountains opened to permanent settlements. Small towns were established, such as Springville. Avon M. Coburn founded Springville in 1890. Coburn established a box factory and sawmill along the Tule River, near where Bear Creek empties into the middle fork of the Tule River. Springville flourished connecting the Tule River valley to the San Joaquin Valley via the wagon road to Porterville, which had been established in 1864.

As the areas to the west grew, the need for steady economical power arose. Albert Wishon, a local real estate agent, convinced the new (1895) San Joaquin Power Company, (later the San Joaquin Light and Power Company), which later merged with Pacific Gas and Electric Company in 1930, to build a hydroelectric dam on the Tule River in 1900. The pack road east of Springville was upgraded to a wagon road, and Camp Wishon was established as a construction camp, located below the Doyle Ranch. Construction on the

power plant began in 1904. The power plant not only provided reliable power to the San Joaquin Valley to the west, but also opened areas to the east.

## **8.0 Field Procedures and Methods**

On May 1-2, 2023, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian archaeological survey of the entire proposed project area. Hudlow surveyed in north/south transects across the entire lot in 15-meter (33 feet) intervals. All archaeological material more than fifty years of age or earlier encountered during the inventory would have been recorded. Site and isolate forms would be completed, artifacts and maps would be drawn.

## **9.0 Report of Archaeological Findings**

One cultural resource was identified, which is an unrecorded portion of CA-TUL-003103H, the Tulare Irrigation District Canal. The Tulare Irrigation District Canal, which services the Tulare Irrigation District on the west side of Tulare County, was originally aligned across the southeast corner of the property, prior to 1969. Sometime between 1969 and 1984, the irrigation canal was realigned. Instead of cutting across the property in an irregular fashion, the realignment consisted of moving the irrigation ditch to a line 1/16 of a section, east of the quarter section line dividing the southwest corner into two halves. This alignment placed the relocated irrigation ditch within site of the adjacent home, and separates the house from a majority of the adjacent orchard (Figures 4 and 5). This realigned section of the irrigation ditch is a quarter-mile long, dirt-lined, six to eight feet wide, with a single siphon. The irrigation canal was carrying a heavy amount of water, and is approximately 4 to 6 feet deep.

Along the northern boundary of the project area is another portion of the Tulare Irrigation District Canal. This east/west section of the irrigation canal originally connected to the Cameron Creek Canal, which originates to the north at Cameron Creek and runs along the western edge of the property. By 1969, the portion of the Tulare Irrigation District Canal along the northern boundary of the project area was no longer connected to the Cameron Creek Canal. By 1984, the siphon on the northern boundary had been constructed, and the new north/south extension had been constructed for the Tulare Irrigation District Canal. The portion of the original northern boundary canal west of the new alignment was still present, evidenced by 1984 aerial photographs. By 1994, the portion of the original northern boundary canal west of the new alignment was filled. Between 2005 and 2009, the remainder of the northern boundary canal had been buried, leaving a remnant adjacent to the north/south section of the Tulare Irrigation District Canal open, which connects to the north/south section with a concrete box, which connects both sections and contains the siphons (Figure 6).





**Figure 4**  
**CA-TUL-003103H, the Tulare Irrigation District Canal, View to the South**





**Figure 5**  
**CA-TUL-003103H, the Tulare Irrigation District Canal, View to the North**





**Figure 6**  
**CA-TUL-003103H, the Tulare Irrigation District Canal, View to the West, along the**  
**Project Area's Northern Boundary**



## 10.0 Management Recommendations

At the request of Crawford and Bowen Planning, Inc., a Phase I Cultural Resource Survey was conducted on an exact 36.51-acre parcel, located at the northwest corner of Visalia Road and Virginia Avenue in the City of Farmersville, California. The Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

**One cultural resource was identified, which is an unrecorded portion of CA-TUL-003103H, the Tulare Irrigation District Canal. The Canal, prior to 1969, crossed the southeast corner of the parcel reaching and crossing Visalia Road near its current location. Between 1969 and 1984, the southeast section was abandoned and the canal was relocated to its current location, with a straight north/south direction, originating from the parcel's northern boundary, where another section of the Tulare Irrigation District Canal is located. Due to the modern right-of-way realignment, this section of the Tulare Irrigation District Canal is not eligible for nomination to the California Register of Historic Resources under Criteria 1-4. This section of the Tulare Irrigation District Canal is not associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1). This section of the Tulare Irrigation District Canal is not associated with the lives of persons important to local, California or national history (Criterion 2). This section of the Tulare Irrigation District Canal does not embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values (Criterion 3). Lastly, this section of the Tulare Irrigation District Canal will not yield, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).**

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

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

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## Appendix I



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## **Education**

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

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

## **Public Service**

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

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

## **Relevant Work Experience**

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

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

**Full resume available upon request.**

Appendix C  
Traffic Study



# TRAFFIC STUDY

CAMERON CREEK SUBDIVISION  
CITY OF FARMERSVILLE

Prepared for:  
Crawford & Bowen Planning, Inc.

July 2023

Prepared by:



1800 30th Street, Suite 260  
Bakersfield, California 93301

A handwritten signature in blue ink, appearing to read 'Ian J. Parks', is written over a horizontal line.

Ian J. Parks, RCE 58155



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## **INTRODUCTION**

The purpose of this study is to evaluate the potential traffic impacts of a proposed residential development located on the north side of Visalia Road, east of Virginia Avenue in Farmersville, California. A vicinity map is presented in Figure 1 and a location map is presented in Figure 2.

The study methodology and vehicle miles traveled analysis is consistent with the California Department of Transportation (Caltrans) “Guide for the Preparation of Traffic Impact Studies,” dated December 2002, County of Tulare “SB 743 Guidelines” dated June 8, 2020, and Section 15064.3(b) of the California Environmental Quality Act (CEQA), which became effective July 1, 2020. The scope of the study includes 12 intersections (three signalized, seven stop-controlled, and two roundabouts) and was developed in coordination with staff from the City of Farmersville and Caltrans.

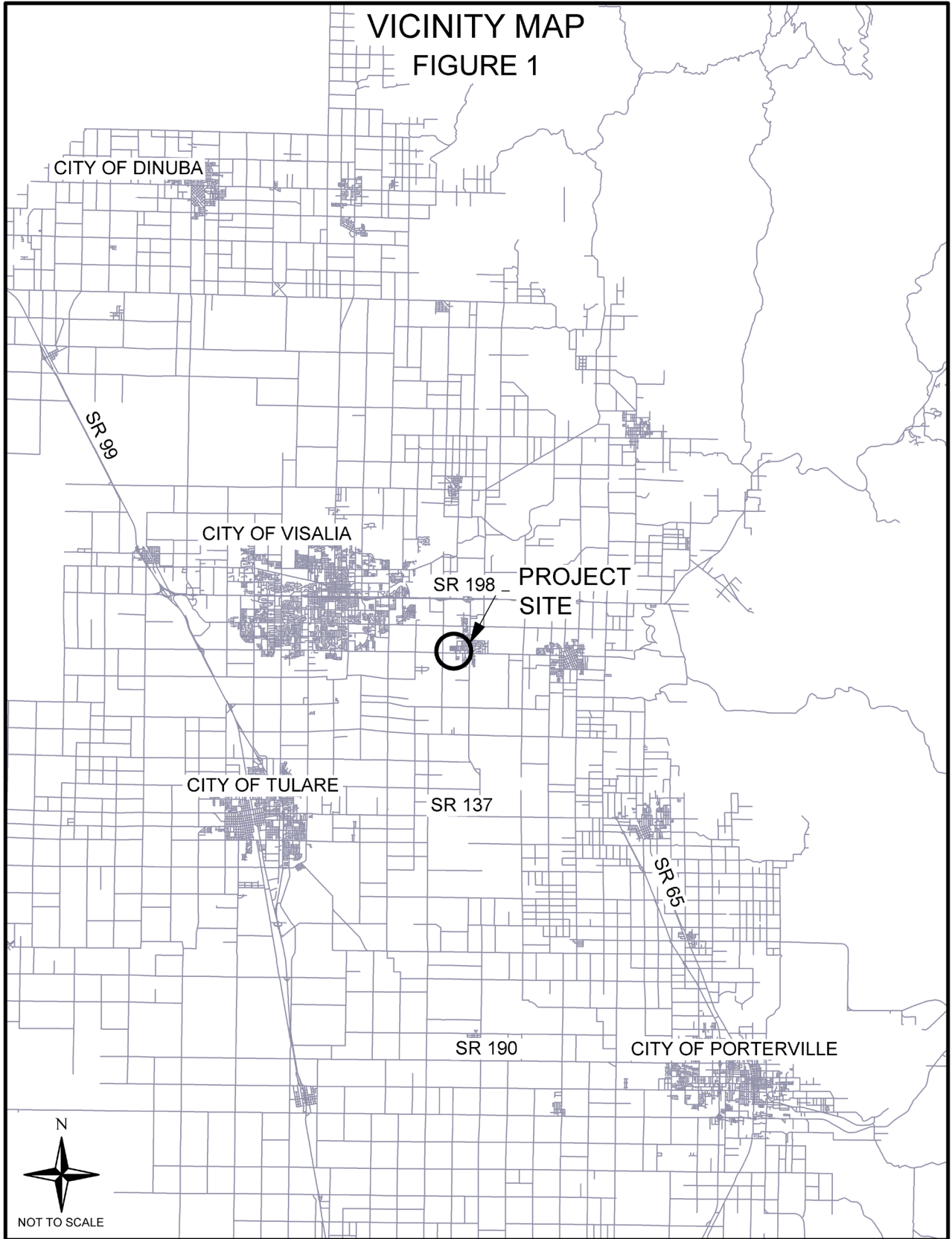
### **A. Project Land Use and Site Access**

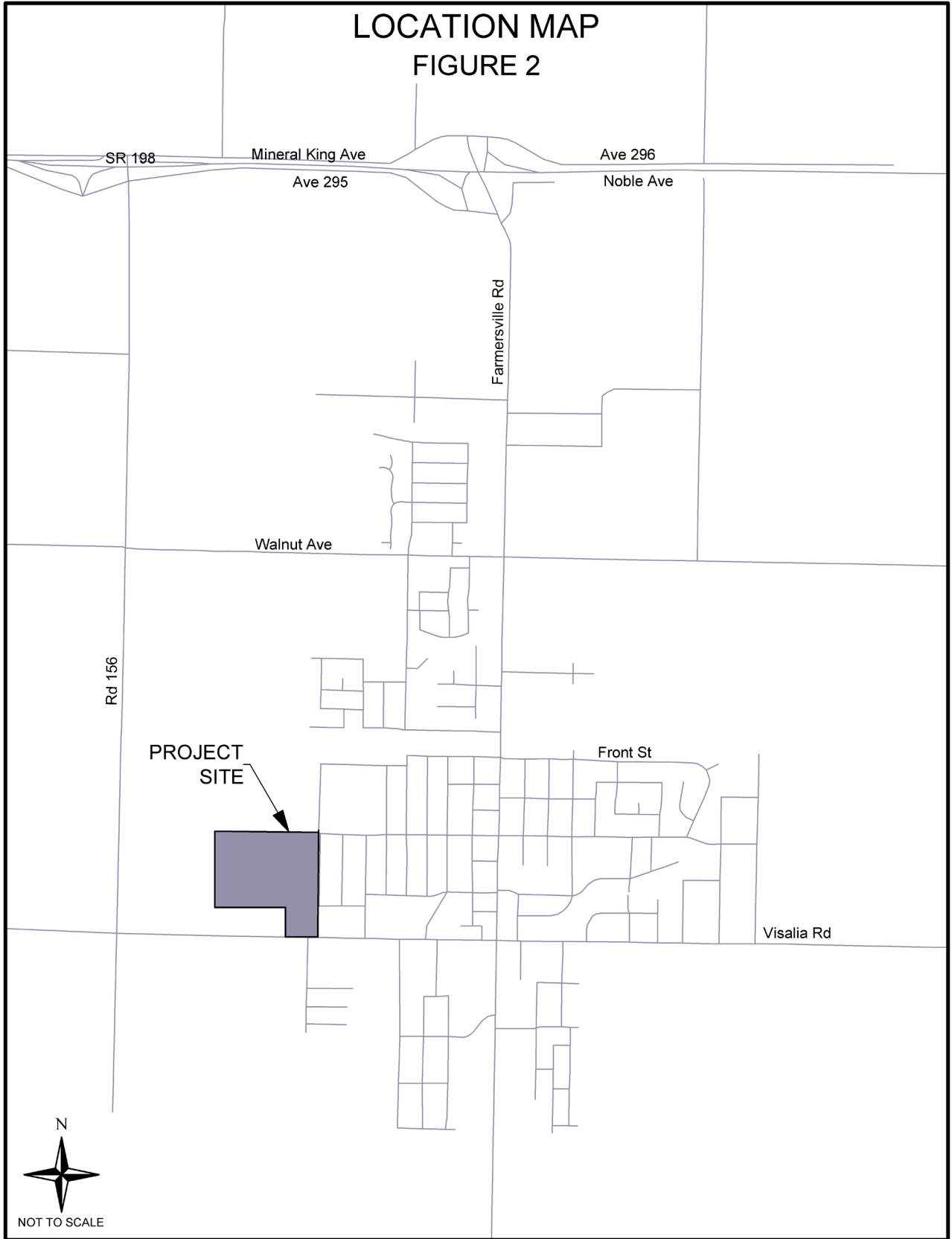
The project site is situated on approximately 36.5 gross acres of undeveloped vacant land. The property is zoned R-1, RM-2.5, and CG. The proposed development would include 151 dwelling units. A tentative subdivision plan is provided in Figure 3, which shows street and lot configurations.

The site is bounded by Visalia Avenue to the south, residential housing to the east, and vacant land to the north and west.

### **B. Existing Land Uses in Project Vicinity**

Land uses in the vicinity of the development include residential to the north and east. Commercial, school, and church facilities exist to the north and east as well. Agricultural land uses exist to the south.







### C. Roadway Descriptions

Avenue 295/Noble Avenue is an east-west collector that extends west from Farmersville Road. In the vicinity of the project it exists as a two-lane roadway and provides access to commercial and industrial land uses as well as the State Route 198.

Avenue 296/Mineral King Avenue is an east-west collector which exists north of State Route 198. In the vicinity of the project it exists as a two-lane roadway and provides access to commercial, residential and agricultural land uses as well as the State Route 198.

Farmersville Boulevard is a four-lane, north-south arterial that extends south from Avenue 296. Farmersville Boulevard provides access to State Route 198 as well as commercial, residential, and industrial land uses.

Front Street is an east-west local roadway that extends from Ventura Avenue to Dwight Avenue. In the vicinity of the project it exists as a two-lane roadway and provides access to commercial and residential land uses. The intersection of Front Street and Farmersville Boulevard is designated in the General Plan for a future traffic signal.

Hacienda Drive is a north-south future collector that is anticipated to extend from Walnut Avenue to Visalia Road and provide access to residential land uses.

Road 156 is a north-south collector that extends from State Route 198 to south of Farmersville. In the vicinity of the project it exists as a two-lane roadway and provides access to agricultural and commercial land uses.

Steven Avenue is a north-south local roadway that extends from Front Street to Visalia Road. It provides access to residential land uses.

Ventura Avenue is a north-south local roadway that extends south from Visalia Road and provides access to residential and commercial land uses.

Virginia Avenue is a north-south local roadway that extends south from Visalia Road and provides access to residential land uses.

Visalia Road is an east-west arterial that extends from Exeter to Visalia. In the vicinity of the project it exists as a four-lane roadway and provides access to residential, commercial, and educational land uses.

Walnut Avenue is a two-lane, east-west collector that extends west from Road 168 in Farmersville to Visalia. Walnut Avenue provides access to residential, commercial, educational, and agricultural land uses.

### **PROJECT TRIP GENERATION**

The project trip generation volumes shown in Table 1 were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Trip rates, equations, and directional splits for ITE Land Use Code 210 (Single Family Detached Housing) were used to estimate project trips for weekday peak hour of adjacent street traffic. The AM and PM peak hours of adjacent street traffic were determined to be between 6:00 AM and 7:00 AM, and between 4:00 PM and 5:00 PM, based on a review of two-hour AM & PM peak hour vehicle turn movement counts taken March 2022.

**Table 1**  
**Project Trip Generation**

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	151 Dwelling Units	eq	1474	eq	26% 27	74% 81	eq	63% 92	37% 54



## **PROJECT TRIP DISTRIBUTION AND ASSIGNMENT**

The distribution of project peak hour trips is shown in Table 2 and represents the movement of traffic accessing the project site by direction. The project trip distribution was developed based on site location and travel patterns anticipated for the proposed land uses.

**Table 2  
Project Trip Distribution**

<b>Direction</b>	<b>Percent</b>
North	10
East	15
South	10
West	65

Project peak hour trips were assigned to the study intersections as shown in Figure 4. Project trip assignment was developed based on trip generation, trip distribution and likely travel routes for traffic accessing the project site.

## **EXISTING AND FUTURE TRAFFIC**

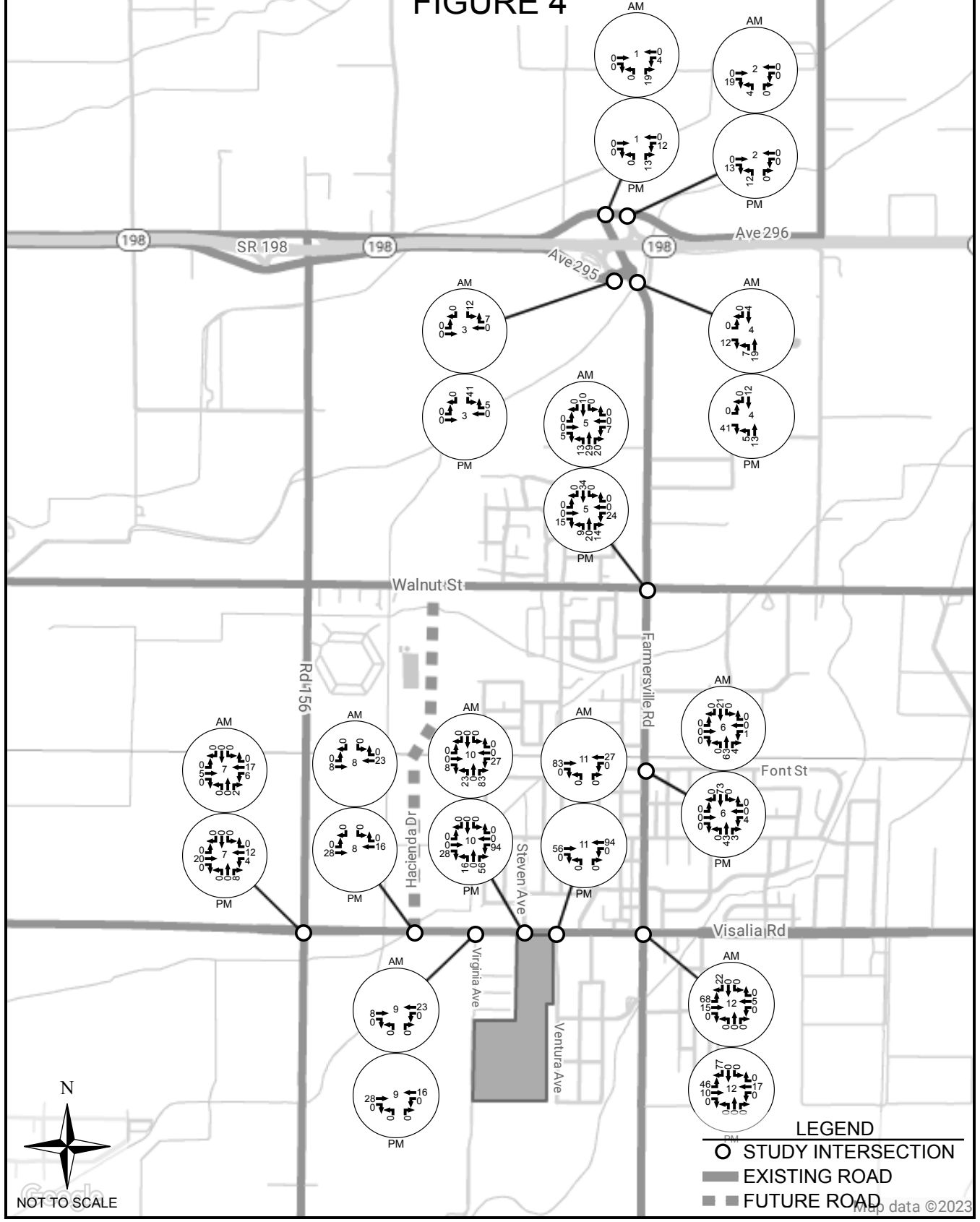
Existing peak hour turning movement counts were obtained in March and July 2022 and grown out to 2023.

Average annual growth rates ranging between 1.10 and 2.25 percent were applied to the 2023 peak hour volumes to estimate peak hour volumes for the year 2043. These growth rates were developed based on a review of historical count data and output from TCAG's regional travel demand model as well as a discussion with the City of Farmersville Planning Consultant. Cumulative volumes were estimated based on information provided by the City of Farmersville regarding build year, land use, size, and location for each pending development.

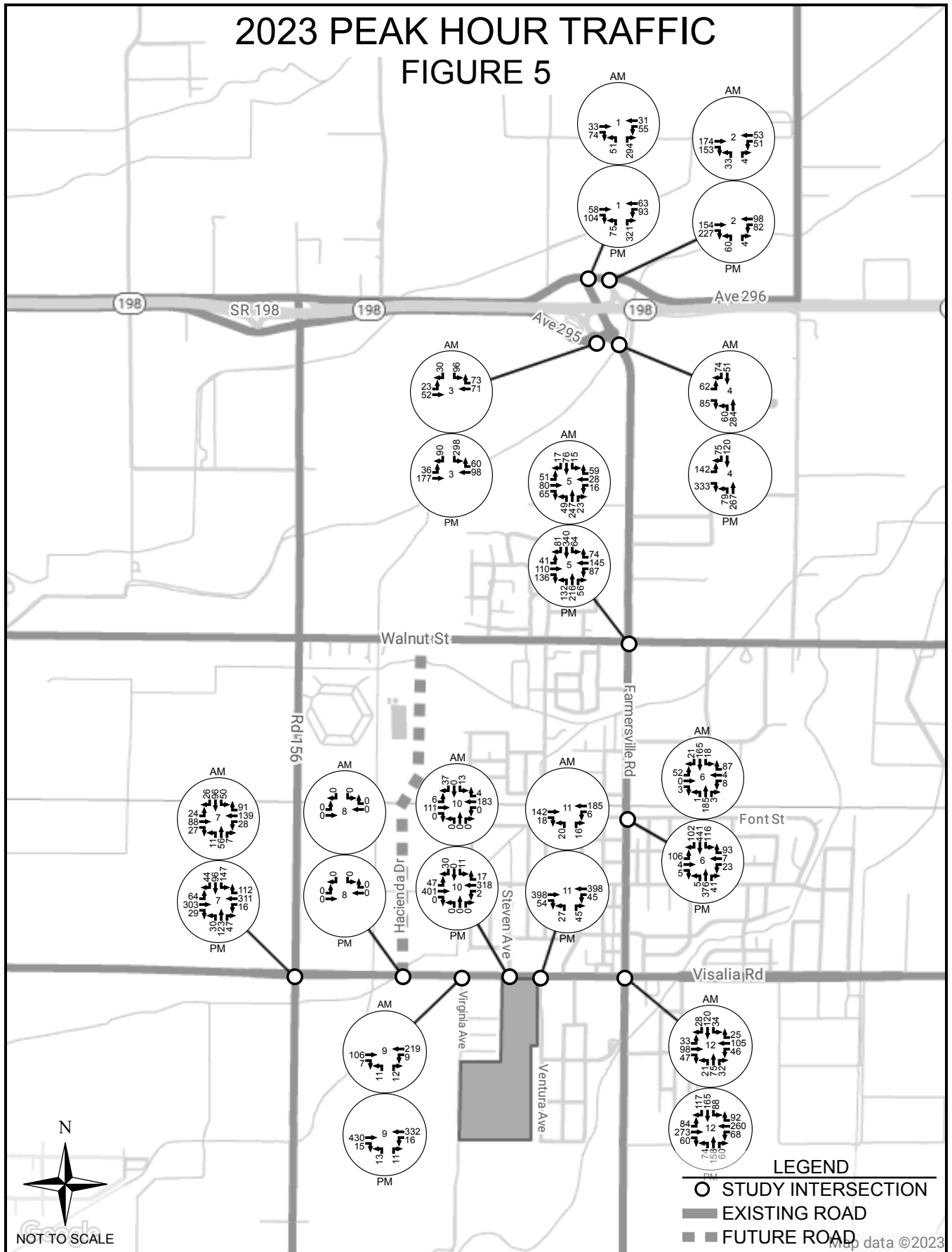
Existing peak hour volumes are shown in Figure 5, and existing plus project peak hour volumes are shown in Figure 6. Future volumes for the year 2043, both without and with project traffic, are shown in Figures 7 and 8, respectively.

# PROJECT PEAK HOUR TRAFFIC

## FIGURE 4

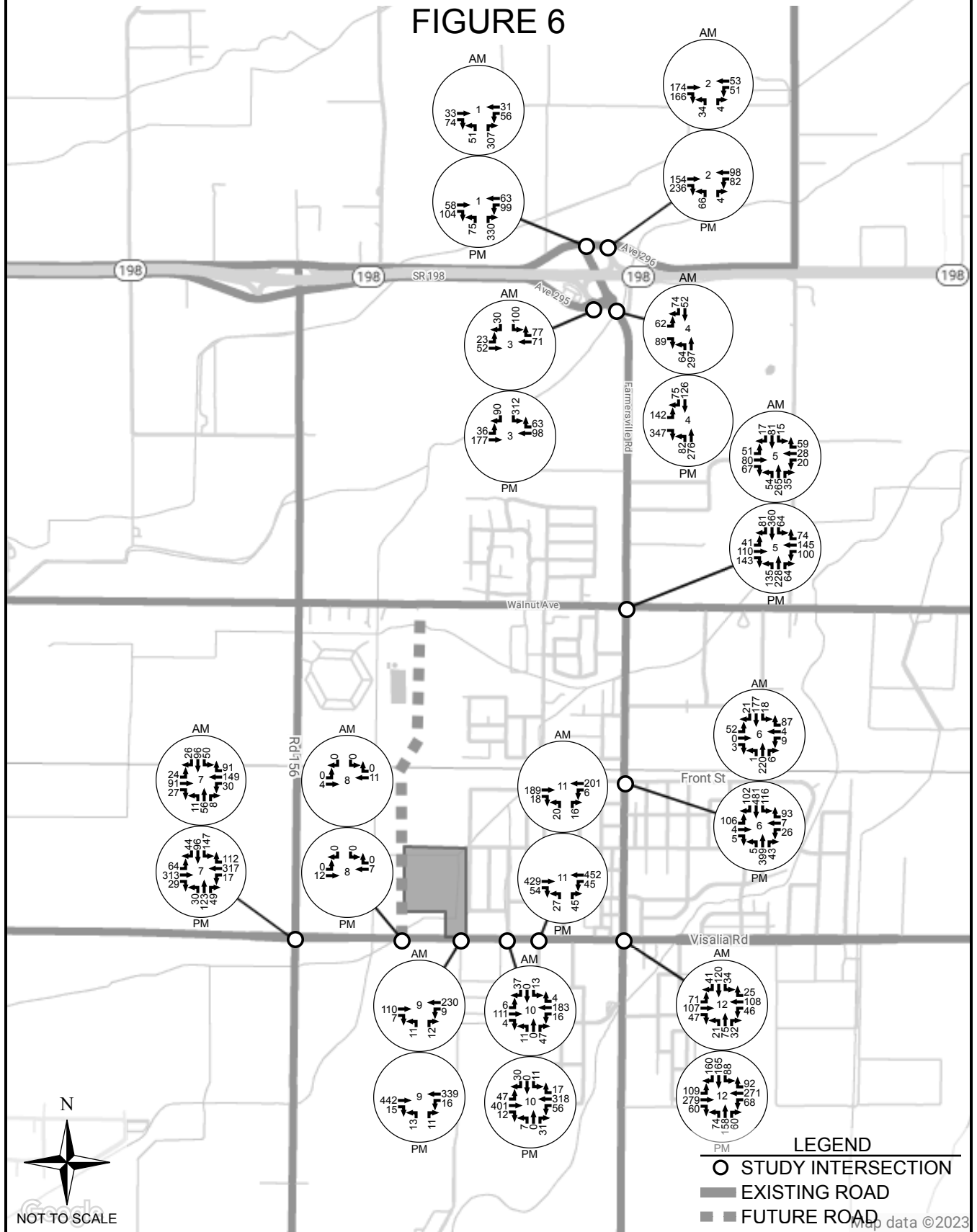


# 2023 PEAK HOUR TRAFFIC FIGURE 5

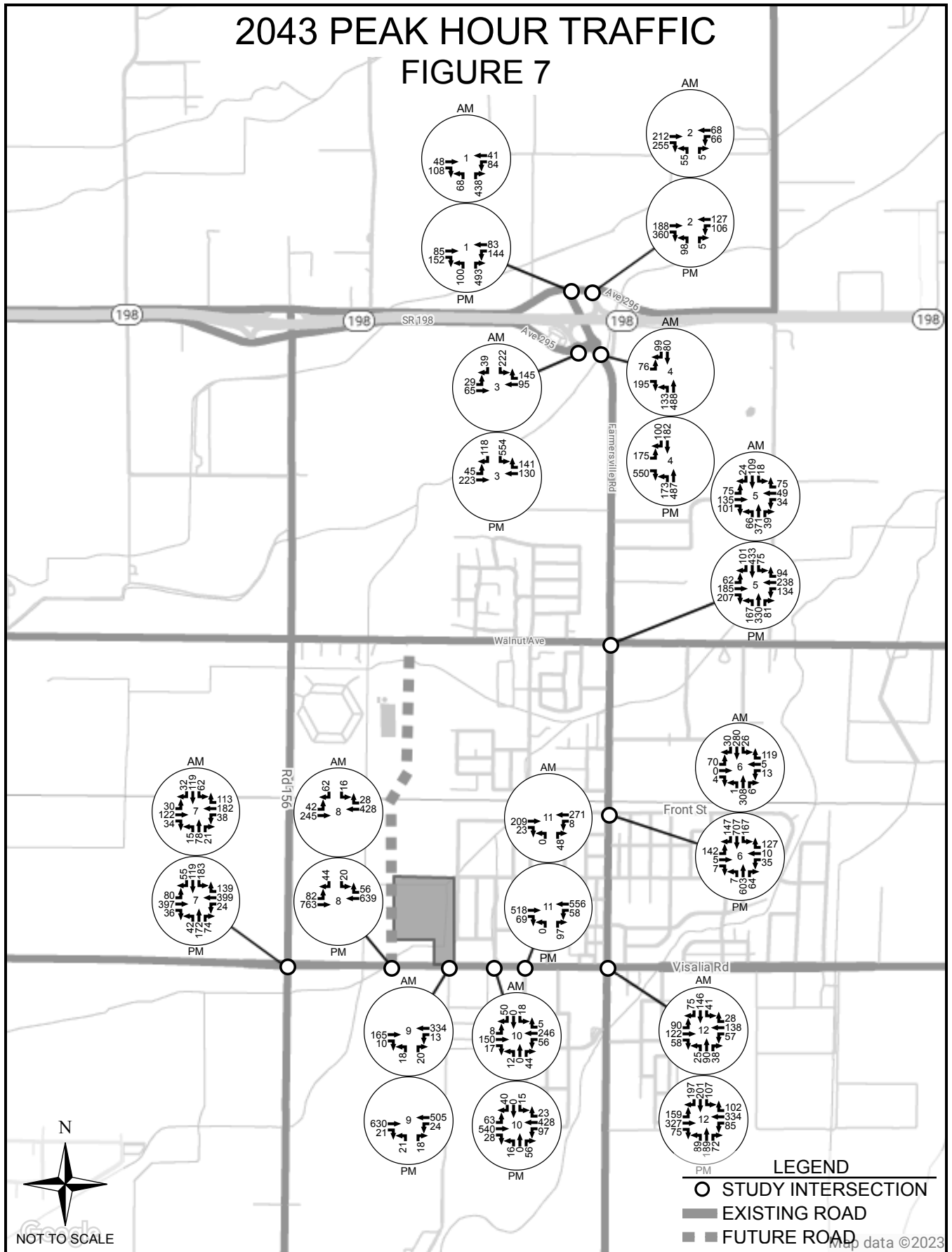


# 2023+PROJECT PEAK HOUR TRAFFIC

## FIGURE 6

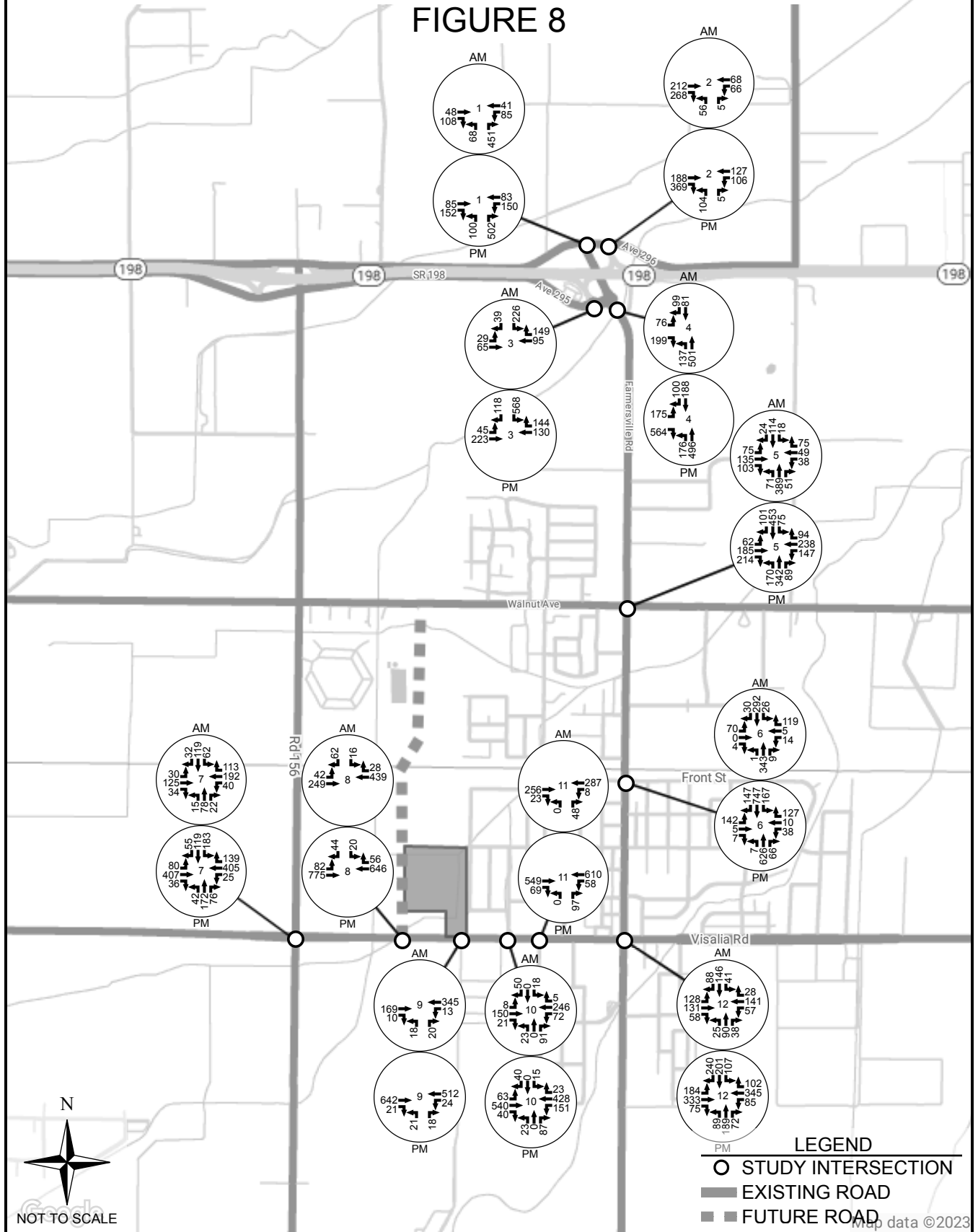


# 2043 PEAK HOUR TRAFFIC FIGURE 7



# 2043+PROJECT PEAK HOUR TRAFFIC

## FIGURE 8



## **INTERSECTION ANALYSIS**

A capacity analysis of the study intersections was conducted using Synchro software from Traffware. This software utilizes the capacity analysis methodology in the Transportation Research Board's Highway Capacity Manual 2010 (HCM 2010). The analysis was performed for each of the following traffic scenarios.

- Existing (2023)
- Existing (2023) + Project
- Future Cumulative (2043)
- Future Cumulative (2043) + Project

Level of service (LOS) criteria for unsignalized and signalized intersections, as defined in HCM 2010, are presented in the tables below. The City of Farmersville's Circulation Element designates LOS C as the minimum acceptable intersection peak hour level of service.

### **LEVEL OF SERVICE CRITERIA UNSIGNALIZED INTERSECTION**

Level of Service	Average Control Delay (sec/veh)	Expected Delay to Minor Street Traffic
A	$\leq 10$	Little or no delay
B	$> 10$ and $\leq 15$	Short delays
C	$> 15$ and $\leq 25$	Average delays
D	$> 25$ and $\leq 35$	Long delays
E	$> 35$ and $\leq 50$	Very long delays
F	$> 50$	Extreme delays

### **LEVEL OF SERVICE CRITERIA SIGNALIZED INTERSECTIONS**

Level of Service	Average Control Delay (sec/veh)	Volume-to-Capacity Ratio
A	$\leq 10$	$< 0.60$
B	$> 10$ and $\leq 20$	0.61 - 0.70
C	$> 20$ and $\leq 35$	0.71 - 0.80
D	$> 35$ and $\leq 55$	0.81 - 0.90
E	$> 55$ and $\leq 80$	0.91 - 1.00
F	$> 80$	$> 1.00$



Peak hour level of service for the study intersections is presented in Tables 3a and 3b. Intersection delay in seconds per vehicle is shown within parentheses for intersections operating below LOS C.

**Table 3a**  
**Intersection Level of Service**  
**Weekday PM Peak Hour**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project	2043+ Project w/Mitigation <sup>1</sup>
1	Farmersville Rd & Ave 296	AWSC	B	B	C	C	-
2	SR 198 EB Ramps & Ave 296	NB	B	C	C	C	-
3	SR 198 EB Ramps & Ave 295	Roundabout	A	A	A	B	-
4	Farmersville Rd & Ave 295	Roundabout	A	A	B	B	-
5	Farmersville Rd & Walnut Ave/W Walnut Ave	Signal	C	C	C	C	-
6	Farmersville Rd & Front St	AWSC	C	C	F (71.2)	F (80.7)	-
		Signal	-	-	-	-	B
7	Rd 156 & Visalia Rd	Signal	B	B	C	C	-
8	Hacienda Dr & Visalia Rd	AWSC	-	A	F (113.4)	F (116.7)	-
		Signal	-	-	-	-	C
9	Virginia Ave & Visalia Rd	NB	B	C	C	D (25.3)	-
		Signal	-	-	-	-	C
10	Steven Ave & Visalia Rd	SB	B	B	C	C	-
11	Ventura Ave & Visalia Rd	NB	C	C	C	C	-
12	Farmersville Rd & Visalia Rd	Signal	B	B	C	C	-

<sup>1</sup>See Table 6 for mitigation measures.

<sup>2</sup>Reconfigure intersection median in the future condition to preclude northbound left turns.



**Table 3b**  
**Intersection Level of Service**  
**Weekday AM Peak Hour**

#	Intersection	Control Type	2023	2023+ Project	2043	2043+ Project	2043+ Project w/Mitigation <sup>1</sup>
1	Farmersville Rd & Ave 296	AWSC	B	B	C	C	-
2	SR 198 EB Ramps & Ave 296	NB	B	B	C	C	-
3	SR 198 EB Ramps & Ave 295	Roundabout	A	A	A	A	-
4	Farmersville Rd & Ave 295	Roundabout	A	A	B	B	-
5	Farmersville Rd & Walnut Ave/W Walnut Ave	Signal	B	B	C	C	-
6	Farmersville Rd & Front St	AWSC	A	A	C	C	-
		Signal	-	-	-	-	B <sup>2</sup>
7	Rd 156 & Visalia Rd	Signal	B	B	B	B	-
8	Hacienda Dr & Visalia Rd	AWSC	-	A	C	C	-
		Signal	-	-	-	-	B <sup>2</sup>
9	Virginia Ave & Visalia Rd	NB	B	B	B	B	-
		Signal	-	-	-	-	B <sup>2</sup>
10	Steven Ave & Visalia Rd	SB	A	A	B	B	-
11	Ventura Ave & Visalia Rd	NB	B	B	A <sup>3</sup>	A <sup>3</sup>	-
12	Farmersville Rd & Visalia Rd	Signal	B	B	C	C	-

<sup>1</sup>See Table 6 for mitigation measures.

<sup>2</sup>Mitigation required due to PM Peak Hour.

<sup>3</sup>Reconfigure intersection median in the future condition to preclude northbound left turns.

**TRAFFIC SIGNAL WARRANT ANALYSIS**

Peak hour signal warrants were evaluated for the one unsignalized intersection within the study based on the 2014 California Manual on Uniform Traffic Control Devices (2014 CA MUTCD). Peak hour signal warrants assess delay to traffic on minor street approaches when entering or crossing a major street. Signal warrant analysis results are shown in Tables 4a and 4b.

**Table 4a  
Traffic Signal Warrants  
Weekday PM Peak Hour**

#	Intersection	2023			2023+Project			2043			2043+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Farmersville Rd at Ave 296	396	162	NO	405	162	NO	593	237	YES	602	237	YES
2	SR 198 EB Ramps at Ave 296	561	64	NO	570	70	NO	781	103	NO	790	109	NO
6	Farmersville Rd at Front St	1081	123	YES	1146	126	YES	1695	172	YES	1760	175	YES
8	Hacienda Dr at Visalia Rd	-	-	-	19	0	NO	1540	64	NO	1559	64	NO
9	Virginia Ave at Visalia Rd	793	24	NO	812	24	NO	1180	39	NO	1199	39	NO
10	Steven Ave at Visalia Rd	785	41	NO	851	41	NO	1179	72	NO	1245	110	YES
11	Ventura Ave at Visalia Rd	899	72	NO	984	72	NO	1205	97	YES	1290	97	YES

**Table 4b  
Traffic Signal Warrants  
Weekday AM Peak Hour**

#	Intersection	2023			2023+Project			2043			2043+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Farmersville Rd at Ave 296	345	107	NO	358	107	NO	506	156	NO	519	156	NO
2	SR 198 EB Ramps at Ave 296	431	37	NO	444	38	NO	601	60	NO	614	61	NO
6	Farmersville Rd at Front St	393	99	NO	443	100	NO	651	137	NO	701	138	NO
8	Hacienda Dr at Visalia Rd	-	-	-	15	0	NO	743	78	NO	758	78	NO
9	Virginia Ave at Visalia Rd	341	23	NO	356	23	NO	522	38	NO	537	38	NO
10	Steven Ave at Visalia Rd	304	50	NO	324	58	NO	482	68	NO	502	114	NO
11	Ventura Ave at Visalia Rd	351	36	NO	414	36	NO	511	49	NO	574	49	NO

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered in order to determine whether signals are truly justified.

It is also noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service or operate below an acceptable level of service and not meet signal warrant criteria.

## **ROADWAY ANALYSIS**

A capacity analysis of the study roadways was conducted using Table 4 in the State of Florida Department of Transportation *Quality/Level of Service Handbook* dated June 2020 (see Appendix). The City of Farmersville Circulation Element states that the peak hour level of service for roadways shall be no lower than LOS “C” for urban areas. The analysis was performed for the following AM and PM traffic scenarios:

- Existing (2023)
- Existing (2023) + Project
- Future Cumulative (2043)
- Future Cumulative (2043) + Project

**Table 5a**  
**PM Roadway Level of Service**

Street	2023 Two-Way LOS		2023+Project Two-Way LOS		2043 Two-Way LOS		2043+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Ave 296: Farmersville Rd to SR 198 WB Ramps	539	C	564	C	805	C	830	C
Ave 295: SR 198 EB Ramps Farmersville Rd	639	C	682	C	1051	C	1097	C
Visalia Rd: Rd 156 to Hacienda Dr	936	C	980	C	1528	D	1572	C
Visalia Rd: Hacienda Dr to Virginia Ave	790	C	834	C	1478	D	1522	C
Visalia Rd: Virginia Ave to Steven Ave	796	C	840	C	1177	C	1221	C
Visalia Rd: Steven Ave to Ventura Ave	881	C	1031	C	1183	C	1333	C
Visalia Rd: Ventura Ave to Farmersville Rd	886	C	1036	C	1193	C	1304	C
Farmersville Rd: Visalia Rd to Font St	891	C	1014	C	1423	C	1546	C
Farmersville Rd: Font St Walnut St	1234	C	1350	C	1893	C	2009	C
Farmersville Rd: Walnut St to Ave 295	816	C	870	C	1392	C	1463	C
Farmersville Rd: Ave 295 to Ave 296	605	C	630	C	945	C	970	C

**Table 5b  
AM Roadway Level of Service**

Street	2023 Two-Way LOS		2023+Project Two-Way LOS		2043 Two-Way LOS		2043+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Ave 296: Farmersville Rd to SR 198 WB Ramps	413	C	436	C	611	C	634	C
Ave 295: SR 198 EB Ramps Farmersville Rd	292	C	311	C	527	C	546	C
Visalia Rd: Rd 156 to Hacienda Dr	403	C	433	C	777	C	808	C
Visalia Rd: Hacienda Dr to Virginia Ave	343	C	374	C	717	C	748	C
Visalia Rd: Virginia Ave to Steven Ave	337	C	377	C	532	C	563	C
Visalia Rd: Steven Ave to Ventura Ave	365	C	475	C	530	C	640	C
Visalia Rd: Ventura Ave to Farmersville Rd	349	C	459	C	510	C	620	C
Farmersville Rd: Visalia Rd to Font St	365	C	454	C	612	C	701	C
Farmersville Rd: Font St Walnut St	528	C	612	C	833	C	917	C
Farversville Rd: Walnut St to Ave 295	480	C	522	C	896	C	938	C
Farversville Rd: Ave 295 to Ave 296	471	C	494	C	743	C	766	C

## IMPROVEMENTS

Intersection improvements needed by the year 2043 to maintain or improve the operational level of service of the street system in the vicinity of the project are presented in Table 6.

**Table 6  
Future Intersection Improvements**

#	Intersection	Total Improvements Required by 2043	Project Share
6	Farmersville Rd & Front St	Signal	8.83%
8	Hacienda Dr & Visalia Rd	Signal	1.17%
9	Virginia Ave & Visalia Rd	Signal	4.51%

Project percent share is calculated using the following formula:

$$\% \text{ Share} = \frac{\text{Project Traffic}}{(\text{Future+Project Traffic}) - \text{Existing Traffic}} \times 100\%$$

## **VMT ANALYSIS**

An evaluation of vehicle miles traveled (VMT) for project traffic was conducted in accordance with California Environmental Quality Act (CEQA) requirements. The City of Farmersville has adopted the “County of Tulare SB 743 Guidelines”, dated June 8, 2020, which contains recommendations regarding VMT assessment, significance thresholds and mitigation measures.

### **Analysis**

Baseline VMT was determined utilizing data from the California Statewide Travel Demand Model (CSTDM). The proposed residential project is located in Traffic Analysis Zone (TAZ) 2757, which has an average VMT/capita of 11.27 miles. The proposed residential project is considered a typical project within the TAZ and therefore the project would be expected to have the same VMT per capita. There are no special considerations with the project to assume the project would produce a VMT/capita lower than the average for the TAZ. The threshold of significance for residential project VMT/capita is if the project VMT is below the average in the TAZ where the project is located. Since VMT/capita is assumed to be equal to the average for the aforementioned zone, it is anticipated that the proposed project will have a significant transportation impact prior to mitigation.

### **Mitigation**

The Tulare County guidelines include detailed instructions for mitigation if a project has significant impacts. The guidelines state “The preferred method of VMT mitigation in Tulare County is for project applicants to provide transportation improvements that facilitate travel by walking, bicycling, or transit.” In accordance with these guidelines, a survey was conducted within a half mile of the project to determine any pedestrian, bicycle or transit facilities deficiencies exist. After review, ADA compliant wheelchair ramps are proposed to be constructed.

The proposed addition of ADA compliant wheelchair ramps are located at the following locations:

- Costner Street & Steven Avenue (2 ramps)
- Virginia Avenue & Ash Street (4 ramps)
- June Avenue & Ash Street (2 ramps)
- Steven Avenue & Ash Street (2 ramps)

The total project cost is estimated at approximately \$30,000 with a 20% contingency. The guidelines include a minimum cost for mitigation of \$20 per daily trip generated by the project or 0.5% of the total

construction cost of the project (not including land acquisition). As shown in Table 1, the project is anticipated to generate 1,474 daily trips, which equates to a target value of improvements of \$29,480.

Pursuant to the guidelines, if a project provides mitigation which meets the minimum threshold listed above, the project can presume a 1% reduction in VMT. The assumed VMT/capita reduction is 1% of 11.27 or 0.11. The resulting VMT/capita after mitigation is 11.16 which is below the average VMT/capita in the TAZ which the project is located. After mitigation, the project will have a less than significant transportation impact.

**FIGURE 9  
PROPOSED VMT MITIGATION**





## **SUMMARY AND CONCLUSIONS**

The purpose of this study is to evaluate the potential traffic impacts of a proposed residential development located on the north side of Visalia Road, east of Virginia Avenue in Farmersville, California.

All 12 study intersections currently operate at or above LOS C during peak hours prior to and with the addition of project traffic.

In 2043, it is anticipated that the intersections of Farmersville Road & Front Street, Hacienda Drive & Visalia Road, and Ventura Avenue & Visalia Road will operate below an acceptable level of service prior to the addition of project traffic. All remaining intersections operate at an acceptable level of service prior to and with the addition of project traffic. The intersections can be mitigated to acceptable levels of service with a traffic signal. The median at the intersection of Ventura Avenue & Visalia Road should be modified to preclude northbound left turns.

All roadway segments within the scope of the study currently operate above LOS C during peak hours prior to, and with the addition of project traffic in both 2023 and 2043.

Project VMT analysis showed a VMT which was equal to the existing local VMT in the area, which indicates a transportation impact under CEQA. With implementation of the mitigation measures identified above for reduction of VMT, the project will have a less than significant transportation impact.

**REFERENCES**

1. California Manual on Uniform Traffic Control Devices for Streets and Highways, 2014 Edition, California Department of Transportation (Caltrans)
2. City of Farmersville General Plan
3. County of Tulare SB 743 Guidelines, June 8, 2020
4. Highway Capacity Manual 2010, Transportation Research Board
5. Interactive Traffic Counts Map, Tulare County Association of Governments (TCAG)
6. Trip Generation Manual, 11th Edition, Institute of Transportation Engineers (ITE)

## APPENDIX

**Intersection**

Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	74	55	31	51	294
Future Vol, veh/h	33	74	55	31	51	294
Peak Hour Factor	0.80	0.80	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	93	71	40	66	382
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.7	9.3	10.8
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	64%
Vol Thru, %	0%	0%	31%	36%
Vol Right, %	0%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	294	107	86
LT Vol	51	0	0	55
Through Vol	0	0	33	31
RT Vol	0	294	74	0
Lane Flow Rate	66	382	134	112
Geometry Grp	7	7	2	2
Degree of Util (X)	0.104	0.47	0.173	0.162
Departure Headway (Hd)	5.638	4.432	4.663	5.221
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	635	809	766	685
Service Time	3.375	2.169	2.711	3.271
HCM Lane V/C Ratio	0.104	0.472	0.175	0.164
HCM Control Delay	9	11.1	8.7	9.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	2.5	0.6	0.6

**Intersection**

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↵			↶	↷	↸
Traffic Vol, veh/h	174	153	51	53	33	4
Future Vol, veh/h	174	153	51	53	33	4
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	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	73	73	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	201	70	73	43	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	430
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1129
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1129
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	13.1
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	712	-	-	1129	-
HCM Lane V/C Ratio	0.093	0.007	-	-	0.062	-
HCM Control Delay (s)	13.5	10.1	-	-	8.4	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-

Intersection			
Intersection Delay, s/veh	3.8		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	88	192	0
Demand Flow Rate, veh/h	90	196	0
Vehicles Circulating, veh/h	110	28	97
Vehicles Exiting, veh/h	132	172	127
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.9	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	90	196	
Cap Entry Lane, veh/h	1233	1341	
Entry HV Adj Factor	0.975	0.980	
Flow Entry, veh/h	88	192	
Cap Entry, veh/h	1203	1314	
V/C Ratio	0.073	0.146	
Control Delay, s/veh	3.6	3.9	
LOS	A	A	
95th %tile Queue, veh	0	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	163		430	139
Demand Flow Rate, veh/h	166		438	142
Vehicles Circulating, veh/h	58		70	76
Vehicles Exiting, veh/h	160		154	432
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	3.2		6.0	3.8
Approach LOS	A		A	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.422	0.578	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	70	96	438	142
Cap Entry Lane, veh/h	1317	1347	1285	1277
Entry HV Adj Fact	0.986	0.979	0.982	0.978
Flow Entry, veh/h	69	94	430	139
Cap Entry, veh/h	1328	1319	1261	1249
V/C Ratio	0.052	0.071	0.341	0.111
Control Delay, s/veh	3.1	3.3	6.0	3.8
LOS	A	A	A	A
95th %tile Queue, veh	0	0	2	0

HCM 6th Signalized Intersection Capacity Analysis  
5: Farmersville Rd & Walnut Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	51	80	65	16	28	59	49	247	23	15	76	17
Future Volume (veh/h)	51	80	65	16	28	59	49	247	23	15	76	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	65	103	83	24	42	89	79	398	37	19	96	22
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.62	0.62	0.62	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	149	399	305	104	348	261	118	584	442	54	511	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.21	0.21	0.06	0.19	0.19	0.07	0.31	0.31	0.03	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.2	14.2	14.4	19.9	14.5	15.7	25.6	14.1	10.4	23.8	11.9	11.4
Ln Grp LOS	C	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		251			155			514			137	
Approach Delay, s/veh		15.8			16.0			15.6			13.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		5.4	17.2	6.7	13.0	7.0	15.6	7.8	11.9			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		5.1	33.8	4.3	31.2	6.9	32.0	5.0	30.5			
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.2	4.1	4.1	4.1	4.3			
Max Q Clear (g_c+1), s		2.5	9.9	2.6	4.1	4.0	3.7	3.6	4.3			
Green Ext Time (g_e), s		0.0	1.5	0.0	0.6	0.0	0.4	0.0	0.4			
Prob of Phs Call (p_c)		0.20	1.00	0.25	0.99	0.60	1.00	0.53	0.98			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		1870		1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1416		1429		1414		1406			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				



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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	19	0	24	0	79	0	65	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.5	0.0	0.6	0.0	2.0	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.6	0.0	2.0	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	54	0	104	0	118	0	149	0
V/C Ratio (X)	0.35	0.00	0.23	0.00	0.67	0.00	0.44	0.00
Avail Cap (c_a), veh/h	221	0	233	0	291	0	260	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.0	0.0	18.8	0.0	19.1	0.0	18.2	0.0
Incr Delay (d2), s/veh	3.8	0.0	1.1	0.0	6.5	0.0	2.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.8	0.0	19.9	0.0	25.6	0.0	20.2	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	0.2	0.0	0.6	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.2	0.0	0.8	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.05	0.00	0.20	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	398	0	103	0	96	0	42
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	1870	0	1870
Q Serve Time (g_s), s	0.0	7.9	0.0	1.9	0.0	1.7	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	1.9	0.0	1.7	0.0	0.8
Lane Grp Cap (c), veh/h	0	584	0	399	0	511	0	348
V/C Ratio (X)	0.00	0.68	0.00	0.26	0.00	0.19	0.00	0.12
Avail Cap (c_a), veh/h	0	1521	0	1455	0	1442	0	1424
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	13.9	0.0	11.8	0.0	14.3
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.3	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.1	0.0	14.2	0.0	11.9	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.6	0.0	0.5	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.6	0.0	0.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	37	0	83	0	22	0	89
Grp Sat Flow (s), veh/h/ln	0	1416	0	1429	0	1414	0	1406
Q Serve Time (g_s), s	0.0	0.8	0.0	2.1	0.0	0.5	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	2.1	0.0	0.5	0.0	2.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	442	0	305	0	386	0	261
V/C Ratio (X)	0.00	0.08	0.00	0.27	0.00	0.06	0.00	0.34
Avail Cap (c_a), veh/h	0	1151	0	1112	0	1090	0	1070
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.3	0.0	13.9	0.0	11.3	0.0	15.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.5	0.0	0.1	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.4	0.0	14.4	0.0	11.4	0.0	15.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.1	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.1	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.23	0.00	0.03	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/vol	
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕	↕				↕	
Traffic Vol, veh/h	52	0	3	8	4	87	1	185	3	18	165	21
Future Vol, veh/h	52	0	3	8	4	87	1	185	3	18	165	21
Peak Hour Factor	0.54	0.54	0.54	0.65	0.65	0.65	0.71	0.71	0.71	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	0	6	12	6	134	1	261	4	26	236	30
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	10.8	9.6	9.9	10
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	95%	67%	0%	18%	0%	0%
Vol Thru, %	99%	97%	0%	33%	0%	82%	80%	
Vol Right, %	0%	3%	5%	0%	100%	0%	20%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	96	55	12	87	101	104	
LT Vol	1	0	52	8	0	18	0	
Through Vol	93	93	0	4	0	83	83	
RT Vol	0	3	3	0	87	0	21	
Lane Flow Rate	132	135	102	18	134	144	148	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.208	0.211	0.180	0.033	0.203	0.229	0.226	
Departure Headway (Hd)	5.678	5.656	6.375	6.498	5.453	5.734	5.5	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	633	636	563	552	659	627	655	
Service Time	3.4	3.372	4.405	4.228	3.182	3.455	3.221	
HCM Lane V/C Ratio	0.209	0.212	0.181	0.033	0.203	0.230	0.226	
HCM Control Delay	9.9	9.9	10.8	9.5	9.6	10.2	9.8	
HCM Lane LOS	A	A	B	A	A	B	A	
HCM 95th-tile Q	0.8	0.8	0.7	0.1	0.8	0.9	0.9	

HCM 6th Signalized Intersection Capacity Analysis  
7: Rd 156 & Visalia Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	88	27	28	139	91	11	56	7	50	96	26
Future Volume (veh/h)	24	88	27	28	139	91	11	56	7	50	96	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	32	116	36	42	207	136	14	70	9	62	119	32
Peak Hour Factor	0.76	0.76	0.76	0.67	0.67	0.67	0.80	0.80	0.80	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	120	268	83	315	331	218	168	327	39	235	235	57
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.20	0.15	0.19	0.31	0.27	0.23	0.23	0.20	0.23	0.23	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.8	0.0	12.0	10.6	0.0	10.5	10.0	0.0	0.0	11.1	0.0	0.0
Ln Grp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		184			385			93			213	
Approach Delay, s/veh		12.5			10.5			10.0			11.1	
Approach LOS		B			B			A			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	4	3		6	8	7			
Case No			8.0	4.0	2.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			11.0	10.1	10.0		11.0	13.8	6.3			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			28.1	37.7	8.7		28.1	37.7	8.7			
Max Allow Headway (MAH), s			4.1	4.1	4.1		4.1	4.1	4.1			
Max Q Clear (g_c+1), s			3.3	4.3	2.7		5.4	7.3	2.6			
Green Ext Time (g_e), s			0.3	0.5	0.0		0.7	1.3	0.0			
Prob of Phs Call (p_c)			1.00	0.99	0.30		1.00	0.99	0.24			
Prob of Max Out (p_x)			0.00	0.00	0.08		0.00	0.00	0.06			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5		3		1		7			
Mvmt Sat Flow, veh/h			154		1641		378		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6	8				
Mvmt Sat Flow, veh/h			1448	1369			1039	1054				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16	18				
Mvmt Sat Flow, veh/h			172	425			251	692				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	3	0	1	0	7			
Lane Assignment			L+T+R		L (Prot)		L+T+R		L (Prot)			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	93	0	42	0	213	0	32
Grp Sat Flow (s), veh/h/ln	0	1774	0	1641	0	1668	0	1641
Q Serve Time (g_s), s	0.0	0.0	0.0	0.7	0.0	2.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.7	0.0	3.4	0.0	0.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1256	0	0	0	1341	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1856	0	0	0	1844	0	0
Perm LT Eff Green (g_p), s	0.0	7.0	0.0	0.0	0.0	7.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	3.6	0.0	0.0	0.0	5.7	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Time to First Blk (g_f), s	0.0	2.9	0.0	0.0	0.0	1.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	1.3	0.0	0.0	0.0	1.4	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.15	0.00	1.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	534	0	315	0	527	0	120
V/C Ratio (X)	0.00	0.17	0.00	0.13	0.00	0.40	0.00	0.27
Avail Cap (c_a), veh/h	0	1744	0	528	0	1680	0	528
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.8	0.0	10.4	0.0	10.6	0.0	13.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.0	0.0	10.6	0.0	11.1	0.0	14.8
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.1	0.0	0.7	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment			T+R				T+R	
Lanes in Grp	0	0	1	0	0	0	1	0
Grp Vol (v), veh/h	0	0	152	0	0	0	343	0
Grp Sat Flow (s), veh/h/ln	0	0	1794	0	0	0	1746	0
Q Serve Time (g_s), s	0.0	0.0	2.3	0.0	0.0	0.0	5.3	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.3	0.0	0.0	0.0	5.3	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.10	0.24	0.00	0.00	0.15	0.40	0.00
Lane Grp Cap (c), veh/h	0	0	351	0	0	0	549	0
V/C Ratio (X)	0.00	0.00	0.43	0.00	0.00	0.00	0.62	0.00
Avail Cap (c_a), veh/h	0	0	2253	0	0	0	2193	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.1	0.0	0.0	0.0	9.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.0	0.0	0.0	0.0	10.5	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.5	0.0	0.0	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.6	0.0	0.0	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh  
Intersection LOS -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	0	0	0
HCM LOS	-	-	-

Lane	EBLn	WBLn	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

**Intersection**

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	106	7	9	219	11	12
Future Vol, veh/h	106	7	9	219	11	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage#	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	8	10	249	22	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	130
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1455
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1455
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.2
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1455	-
HCM Lane V/C Ratio	0.062	-	-	0.007	-
HCM Control Delay (s)	10.2	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-



**Intersection**

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	6	111	0	0	183	4	0	0	0	13	0	37
Future Vol, veh/h	6	111	0	0	183	4	0	0	0	13	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	87	87	87	92	92	92	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	126	0	0	210	5	0	0	0	16	0	46

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	215	0	290
Stage 1	-	-	213
Stage 2	-	-	77
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1352	0	677
Stage 1	-	0	802
Stage 2	-	0	937
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1352	-	674
Mov Cap-2 Maneuver	-	-	674
Stage 1	-	-	798
Stage 2	-	-	937

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1352	-	-	-	843
HCM Lane V/C Ratio	0.005	-	-	-	-0.074
HCM Control Delay (s)	7.7	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

**Intersection**

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	
Traffic Vol, veh/h	142	18	6	185	20	16
Future Vol, veh/h	142	18	6	185	20	16
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	21	7	210	40	32

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	184
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1388
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1388
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1388	-
HCM Lane V/C Ratio	0.094	-	-	0.005	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	33	98	47	46	105	25	21	75	32	34	120	28
Future Volume (veh/h)	33	98	47	46	105	25	21	75	32	34	120	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	47	140	67	63	144	34	33	117	50	44	156	36
Peak Hour Factor	0.70	0.70	0.70	0.73	0.73	0.73	0.64	0.64	0.64	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	131	488	221	149	621	142	80	434	175	94	533	119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.21	0.17	0.09	0.22	0.18	0.05	0.18	0.16	0.06	0.19	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	11.8	12.3	16.6	11.3	11.6	19.1	12.6	12.9	19.2	12.5	12.6
Ln Grp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		254			241			200			236	
Approach Delay, s/veh		12.9			12.8			13.8			13.8	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.0	10.1	7.1	11.1	5.7	10.3	6.7	11.4			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		4.3	33.7	5.2	32.0	4.0	34.0	4.0	33.2			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		2.9	3.5	3.2	3.9	2.7	3.7	2.9	3.5			
Green Ext Time (g_e), s		0.0	0.5	0.0	0.7	0.0	0.6	0.0	0.6			
Prob of Phs Call (p_c)		0.34	1.00	0.45	0.98	0.27	1.00	0.36	0.99			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2451		2359		2870		2857			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			990		1066		643		654			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	44	0	63	0	33	0	47	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.9	0.0	1.2	0.0	0.7	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	1.2	0.0	0.7	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	94	0	149	0	80	0	131	0
V/C Ratio (X)	0.47	0.00	0.42	0.00	0.41	0.00	0.36	0.00
Avail Cap (c_a), veh/h	235	0	312	0	221	0	254	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.6	0.0	14.7	0.0	15.8	0.0	14.9	0.0
Incr Delay (d2), s/veh	3.6	0.0	1.9	0.0	3.3	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	19.2	0.0	16.6	0.0	19.1	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.3	0.0	0.2	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.4	0.0	0.2	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.05	0.00	0.04	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	83	0	103	0	95	0	88
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	1.4	0.0	1.7	0.0	1.6	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	1.7	0.0	1.6	0.0	1.4
Lane Grp Cap (c), veh/h	0	315	0	368	0	330	0	386
V/C Ratio (X)	0.00	0.26	0.00	0.28	0.00	0.29	0.00	0.23
Avail Cap (c_a), veh/h	0	1782	0	1730	0	1798	0	1792
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.1	0.0	11.4	0.0	12.0	0.0	11.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.4	0.0	0.5	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	11.8	0.0	12.5	0.0	11.3
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.4	0.0	0.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	84	0	104	0	97	0	90
Grp Sat Flow (s), veh/h/ln	0	1664	0	1648	0	1736	0	1735
Q Serve Time (g_s), s	0.0	1.5	0.0	1.9	0.0	1.7	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	1.7	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.00	0.65	0.00	0.37	0.00	0.38
Lane Grp Cap (c), veh/h	0	295	0	341	0	322	0	377
V/C Ratio (X)	0.00	0.29	0.00	0.30	0.00	0.30	0.00	0.24
Avail Cap (c_a), veh/h	0	1668	0	1605	0	1757	0	1750
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	11.9	0.0	12.1	0.0	11.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	12.3	0.0	12.6	0.0	11.6
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.4	0.0	0.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.5	0.0	0.4	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	33	74	62	31	51	318
Future Vol, veh/h	33	74	62	31	51	318
Peak Hour Factor	0.80	0.80	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	93	81	40	66	413
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.8	9.5	11.4
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	67%
Vol Thru, %	0%	0%	31%	33%
Vol Right, %	0%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	318	107	93
LT Vol	51	0	0	62
Through Vol	0	0	33	31
RT Vol	0	318	74	0
Lane Flow Rate	66	413	134	121
Geometry Grp	7	7	2	2
Degree of Util (X)	0.104	0.512	0.176	0.178
Departure Headway (Hd)	5.668	4.461	4.748	5.299
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	805	752	674
Service Time	3.41	2.204	2.804	3.357
HCM Lane V/C Ratio	0.105	0.513	0.178	0.18
HCM Control Delay	9.1	11.8	8.8	9.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	3	0.6	0.6

**Intersection**

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	174	177	51	53	40	4
Future Vol, veh/h	174	177	51	53	40	4
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	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	73	73	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	233	70	73	53	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	462
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1099
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1099
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	13.6
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	458	697	-	-	1099	-
HCM Lane V/C Ratio	0.115	0.008	-	-	0.064	-
HCM Control Delay (s)	13.9	10.2	-	-	8.5	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-

Intersection			
Intersection Delay, s/veh	3.9		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	88	206	0
Demand Flow Rate, veh/h	90	210	0
Vehicles Circulating, veh/h	114	28	97
Vehicles Exiting, veh/h	132	176	141
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.6	4.0	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	90	210	
Cap Entry Lane, veh/h	1228	1341	
Entry HV Adj Factor	0.975	0.981	
Flow Entry, veh/h	88	206	
Cap Entry, veh/h	1198	1316	
V/C Ratio	0.073	0.157	
Control Delay, s/veh	3.6	4.0	
LOS	A	A	
95th %tile Queue, veh	0	1	



Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	168		473	146
Demand Flow Rate, veh/h	171		483	149
Vehicles Circulating, veh/h	65		70	90
Vehicles Exiting, veh/h	174		166	463
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	3.3		6.5	3.9
Approach LOS	A		A	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.409	0.591	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	70	101	483	149
Cap Entry Lane, veh/h	1339	1339	1285	1259
Entry HV Adj Fact	0.986	0.980	0.980	0.978
Flow Entry, veh/h	69	99	473	146
Cap Entry, veh/h	1319	1312	1259	1231
V/C Ratio	0.052	0.075	0.376	0.118
Control Delay, s/veh	3.1	3.3	6.5	3.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	2	0

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	51	80	66	16	28	59	52	281	25	15	87	17
Future Volume (veh/h)	51	80	66	16	28	59	52	281	25	15	87	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	65	103	85	24	42	89	84	453	40	19	110	22
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.62	0.62	0.62	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	144	390	298	101	340	256	124	629	477	53	549	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.21	0.21	0.06	0.18	0.18	0.08	0.34	0.34	0.03	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.4	15.0	15.3	21.0	15.3	16.6	26.3	14.4	10.1	25.0	11.9	11.3
Ln Grp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		253			155			577			151	
Approach Delay, s/veh		16.7			17.0			15.9			13.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		5.4	18.9	6.7	13.2	7.3	17.0	7.9	12.1			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		5.1	34.3	4.0	31.0	7.4	32.0	4.3	30.7			
Max Allow Headway (MAH), s		4.1	4.0	4.1	4.2	4.1	4.1	4.1	4.3			
Max Q Clear (g_c+1), s		2.5	11.4	2.6	4.2	4.2	4.0	3.7	4.5			
Green Ext Time (g_e), s		0.0	1.8	0.0	0.6	0.0	0.4	0.0	0.4			
Prob of Phs Call (p_c)		0.21	1.00	0.26	0.99	0.64	1.00	0.55	0.99			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		1870		1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1417		1429		1415		1405			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	19	0	24	0	84	0	65	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.5	0.0	0.6	0.0	2.2	0.0	1.7	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.6	0.0	2.2	0.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	53	0	101	0	124	0	144	0
V/C Ratio (X)	0.36	0.00	0.24	0.00	0.68	0.00	0.45	0.00
Avail Cap (c_a), veh/h	211	0	211	0	296	0	222	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.0	0.0	19.8	0.0	20.0	0.0	19.2	0.0
Incr Delay (d2), s/veh	4.0	0.0	1.2	0.0	6.3	0.0	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.0	0.0	21.0	0.0	26.3	0.0	21.4	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.2	0.0	0.7	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.2	0.0	0.9	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.05	0.00	0.22	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	453	0	103	0	110	0	42
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	1870	0	1870
Q Serve Time (g_s), s	0.0	9.4	0.0	2.0	0.0	2.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	2.0	0.0	2.0	0.0	0.8
Lane Grp Cap (c), veh/h	0	629	0	390	0	549	0	340
V/C Ratio (X)	0.00	0.72	0.00	0.26	0.00	0.20	0.00	0.12
Avail Cap (c_a), veh/h	0	1473	0	1380	0	1376	0	1367
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	14.7	0.0	11.8	0.0	15.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.4	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	15.0	0.0	11.9	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.6	0.0	0.5	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.7	0.0	0.6	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	40	0	85	0	22	0	89
Grp Sat Flow (s), veh/h/ln	0	1417	0	1429	0	1415	0	1405
Q Serve Time (g_s), s	0.0	0.9	0.0	2.2	0.0	0.5	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	2.2	0.0	0.5	0.0	2.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	477	0	298	0	415	0	256
V/C Ratio (X)	0.00	0.08	0.00	0.29	0.00	0.05	0.00	0.35
Avail Cap (c_a), veh/h	0	1116	0	1054	0	1041	0	1027
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	14.8	0.0	11.2	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.5	0.0	0.1	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.1	0.0	15.3	0.0	11.3	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.1	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.6	0.0	0.1	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.26	0.00	0.03	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh  
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Vol, veh/h	52	0	3	9	4	87	1	225	5	18	179	21
Future Vol, veh/h	52	0	3	9	4	87	1	225	5	18	179	21
Peak Hour Factor	0.54	0.54	0.54	0.65	0.65	0.65	0.71	0.71	0.71	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	0	6	14	6	134	1	317	7	26	256	30
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	11.1	9.9	10.5	10.3
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	95%	69%	0%	17%	0%
Vol Thru, %	99%	96%	0%	31%	0%	83%	81%
Vol Right, %	0%	4%	5%	0%	100%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	118	55	13	87	108	111
LT Vol	1	0	52	9	0	18	0
Through Vol	113	113	0	4	0	90	90
RT Vol	0	5	3	0	87	0	21
Lane Flow Rate	160	165	102	20	134	154	158
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.255	0.262	0.186	0.037	0.21	0.249	0.246
Departure Headway (Hd)	5.74	5.705	6.58	6.718	5.658	5.838	5.619
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	627	631	546	533	634	616	639
Service Time	3.467	3.432	4.616	4.454	3.393	3.566	3.347
HCM Lane V/C Ratio	0.255	0.261	0.187	0.038	0.211	0.25	0.247
HCM Control Delay	10.4	10.5	11.1	9.7	9.9	10.5	10.2
HCM Lane LOS	B	B	B	A	A	B	B
HCM 95th-tile Q	1	1	0.7	0.1	0.8	1	1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	97	27	40	163	91	11	56	11	50	96	26
Future Volume (veh/h)	24	97	27	40	163	91	11	56	11	50	96	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	32	128	36	60	243	136	14	70	14	62	119	32
Peak Hour Factor	0.76	0.76	0.76	0.67	0.67	0.67	0.80	0.80	0.80	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	117	280	79	335	374	209	160	305	56	229	231	56
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.20	0.16	0.20	0.33	0.29	0.22	0.22	0.19	0.22	0.22	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	15.4	0.0	12.4	10.8	0.0	10.6	10.5	0.0	0.0	11.6	0.0	0.0
Ln Grp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		196			439			98			213	
Approach Delay, s/veh		12.8			10.6			10.5			11.6	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	4	3		6	8	7			
Case No			8.0	4.0	2.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			11.1	10.4	10.5		11.1	14.7	6.3			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			27.1	37.7	9.7		27.1	39.7	7.7			
Max Allow Headway (MAH), s			4.1	4.1	4.1		4.1	4.1	4.1			
Max Q Clear (g_c+1), s			3.4	4.6	3.0		5.6	8.0	2.6			
Green Ext Time (g_e), s			0.3	0.5	0.1		0.7	1.4	0.0			
Prob of Phs Call (p_c)			1.00	0.99	0.41		1.00	1.00	0.25			
Prob of Max Out (p_x)			0.00	0.00	0.05		0.00	0.00	0.23			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5		3		1		7			
Mvmt Sat Flow, veh/h			145		1641		377		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6	8				
Mvmt Sat Flow, veh/h			1369	1404			1039	1126				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16	18				
Mvmt Sat Flow, veh/h			252	395			250	630				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	3	0	1	0	7			
Lane Assignment			L+T+R		L (Prot)		L+T+R		L (Prot)			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	98	0	60	0	213	0	32
Grp Sat Flow (s), veh/h/ln	0	1766	0	1641	0	1666	0	1641
Q Serve Time (g_s), s	0.0	0.0	0.0	1.0	0.0	2.1	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	1.0	0.0	3.6	0.0	0.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1256	0	0	0	1335	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1857	0	0	0	1844	0	0
Perm LT Eff Green (g_p), s	0.0	7.1	0.0	0.0	0.0	7.1	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	3.6	0.0	0.0	0.0	5.7	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Time to First Blk (g_f), s	0.0	3.0	0.0	0.0	0.0	1.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	1.4	0.0	0.0	0.0	1.5	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.14	0.00	1.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	521	0	335	0	516	0	117
V/C Ratio (X)	0.00	0.19	0.00	0.18	0.00	0.41	0.00	0.27
Avail Cap (c_a), veh/h	0	1627	0	562	0	1572	0	460
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.3	0.0	10.6	0.0	11.1	0.0	14.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.3	0.0	0.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.5	0.0	10.8	0.0	11.6	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.2	0.0	0.7	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.2	0.0	0.8	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	0	6	8	0
<b>Lane Assignment</b>								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment			T+R				T+R	
Lanes in Grp	0	0	1	0	0	0	1	0
Grp Vol (v), veh/h	0	0	164	0	0	0	379	0
Grp Sat Flow (s), veh/h/ln	0	0	1799	0	0	0	1757	0
Q Serve Time (g_s), s	0.0	0.0	2.6	0.0	0.0	0.0	6.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.6	0.0	0.0	0.0	6.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.14	0.22	0.00	0.00	0.15	0.36	0.00
Lane Grp Cap (c), veh/h	0	0	359	0	0	0	583	0
V/C Ratio (X)	0.00	0.00	0.46	0.00	0.00	0.00	0.65	0.00
Avail Cap (c_a), veh/h	0	0	2186	0	0	0	2244	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.4	0.0	0.0	0.0	9.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.0	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.4	0.0	0.0	0.0	10.6	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.6	0.0	0.0	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.7	0.0	0.0	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B



**Intersection**

Intersection Delay, s/veh  
Intersection LOS A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	6	17	0	0	19
Future Vol, veh/h	6	6	17	0	0	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	18	0	0	21
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.2	7.1	6.5
HCM LOS	A	A	A

Lane	EBLn	WBLn	SBLn
Vol Left, %	50%	0%	0%
Vol Thru, %	50%	100%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	12	17	19
LT Vol	6	0	0
Through Vol	6	17	0
RT Vol	0	0	19
Lane Flow Rate	13	18	21
Geometry Grp	1	1	1
Degree of Util (X)	0.015	0.02	0.019
Departure Headway (Hd)	4.083	3.98	3.388
Convergence, Y/N	Yes	Yes	Yes
Cap	881	904	1058
Service Time	2.088	1.984	1.402
HCM Lane V/C Ratio	0.015	0.02	0.02
HCM Control Delay	7.2	7.1	6.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.1

**Intersection**

Int Delay, s/veh 1.3

**Movement EBT EBR WBL WBT NBL NBR**

Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	106	7	9	219	11	12
Future Vol, veh/h	106	7	9	219	11	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage#	-	-	0	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	8	10	249	22	24

**Major/Minor Major1 Major2 Minor1**

Conflicting Flow All	0	0	130	0	395	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	269	-
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	-	-	1455	-	610	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1455	-	606	924
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	771	-

**Approach EB WB NB**

HCM Control Delay, s	0	0.3	10.2
HCM LOS			B

**Minor Lane/Major MvmNBLn1 EBT EBR WBL WBT**

Capacity (veh/h)	739	-	-	1455	-
HCM Lane V/C Ratio	0.062	-	-	0.007	-
HCM Control Delay (s)	10.2	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

**Intersection**

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	6	155	0	0	198	4	0	0	0	13	0	37
Future Vol, veh/h	6	155	0	0	198	4	0	0	0	13	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	87	87	87	92	92	92	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	176	0	0	228	5	0	0	0	16	0	46

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	233	0	333
Stage 1	-	-	231
Stage 2	-	-	102
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	632	0	636
Stage 1	-	0	785
Stage 2	-	0	911
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	632	-	633
Mov Cap-2 Maneuver	-	-	633
Stage 1	-	-	781
Stage 2	-	-	911

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1332	-	-	-	819
HCM Lane V/C Ratio	0.005	-	-	-	-0.076
HCM Control Delay (s)	7.7	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

**Intersection**

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	186	18	6	200	20	16
Future Vol, veh/h	186	18	6	200	20	16
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	214	21	7	227	40	32

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0 235	0 353 118
Stage 1	-	-	- 225 -
Stage 2	-	-	- 128 -
Critical Hdwy	-	- 4.14	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	-	- 2.22	- 3.52 3.32
Pot Cap-1 Maneuver	-	- 1329	- 618 912
Stage 1	-	-	- 791 -
Stage 2	-	-	- 884 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	- 1329	- 614 912
Mov Cap-2 Maneuver	-	-	- 614 -
Stage 1	-	-	- 791 -
Stage 2	-	-	- 879 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.6
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1329	-
HCM Lane V/C Ratio	0.1	-	-	0.005	-
HCM Control Delay (s)	10.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	74	101	47	46	106	25	21	75	32	34	120	42
Future Volume (veh/h)	74	101	47	46	106	25	21	75	32	34	120	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	106	144	67	63	145	34	33	117	50	44	156	55
Peak Hour Factor	0.70	0.70	0.70	0.73	0.73	0.73	0.64	0.64	0.64	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	186	516	227	147	551	125	80	443	179	93	490	166
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.22	0.18	0.09	0.19	0.16	0.05	0.18	0.16	0.06	0.19	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.5	11.8	12.3	17.1	12.4	12.7	19.6	12.8	13.1	19.7	12.8	13.0
Ln Grp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		317			242			200			255	
Approach Delay, s/veh		13.9			13.7			14.0			14.1	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.0	10.3	7.1	11.6	5.7	10.6	8.0	10.8			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		4.0	33.7	4.0	33.5	4.0	33.7	4.7	32.8			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		2.9	3.5	3.3	3.9	2.7	3.9	4.1	3.6			
Green Ext Time (g_e), s		0.0	0.5	0.0	0.7	0.0	0.7	0.0	0.6			
Prob of Phs Call (p_c)		0.35	1.00	0.46	0.99	0.27	1.00	0.64	0.99			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2451		2381		2590		2860			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			990		1049		876		651			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	44	0	63	0	33	0	106	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.9	0.0	1.3	0.0	0.7	0.0	2.1	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	1.3	0.0	0.7	0.0	2.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	93	0	147	0	80	0	186	0
V/C Ratio (X)	0.47	0.00	0.43	0.00	0.41	0.00	0.57	0.00
Avail Cap (c_a), veh/h	215	0	248	0	215	0	281	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	16.0	0.0	15.1	0.0	16.2	0.0	14.7	0.0
Incr Delay (d2), s/veh	3.7	0.0	2.0	0.0	3.4	0.0	2.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	19.7	0.0	17.1	0.0	19.6	0.0	17.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.3	0.0	0.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.4	0.0	0.3	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.05	0.00	0.04	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	83	0	105	0	105	0	88
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	1.4	0.0	1.7	0.0	1.8	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	1.7	0.0	1.8	0.0	1.5
Lane Grp Cap (c), veh/h	0	321	0	385	0	336	0	342
V/C Ratio (X)	0.00	0.26	0.00	0.27	0.00	0.31	0.00	0.26
Avail Cap (c_a), veh/h	0	1738	0	1764	0	1738	0	1728
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	11.4	0.0	12.3	0.0	12.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.4	0.0	0.5	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.8	0.0	11.8	0.0	12.8	0.0	12.4
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.4	0.0	0.4	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.4	0.0	0.5	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	84	0	106	0	106	0	91
Grp Sat Flow (s), veh/h/ln	0	1664	0	1653	0	1688	0	1734
Q Serve Time (g_s), s	0.0	1.5	0.0	1.9	0.0	1.9	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	1.9	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.00	0.63	0.00	0.52	0.00	0.38
Lane Grp Cap (c), veh/h	0	301	0	358	0	319	0	334
V/C Ratio (X)	0.00	0.28	0.00	0.29	0.00	0.33	0.00	0.27
Avail Cap (c_a), veh/h	0	1628	0	1641	0	1652	0	1687
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.6	0.0	11.9	0.0	12.4	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.5	0.0	0.6	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	0.0	12.3	0.0	13.0	0.0	12.7
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.5	0.0	0.5	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	48	108	84	41	68	438
Future Vol, veh/h	48	108	84	41	68	438
Peak Hour Factor	0.80	0.80	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	135	109	53	88	569
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right			NB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.6	11.2	20.3
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	67%
Vol Thru, %	0%	0%	31%	33%
Vol Right, %	0%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	438	156	125
LT Vol	68	0	0	84
Through Vol	0	0	48	41
RT Vol	0	438	108	0
Lane Flow Rate	88	569	195	162
Geometry Grp	7	7	2	2
Degree of Util (X)	0.149	0.77	0.29	0.268
Departure Headway (Hd)	6.081	4.87	5.359	5.944
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	593	745	669	604
Service Time	3.781	2.57	3.4	3.985
HCM Lane V/C Ratio	0.148	0.764	0.291	0.268
HCM Control Delay	9.8	21.9	10.6	11.2
HCM Lane LOS	A	C	B	B
HCM 95th-tile Q	0.5	7.4	1.2	1.1



**Intersection**

Int Delay, s/veh 2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	212	255	66	68	55	5
Future Vol, veh/h	212	255	66	68	55	5
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	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	73	73	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	279	336	90	93	72	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	615
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	965
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	965
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	17.1
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	356	612	-	-	965	-
HCM Lane V/C Ratio	0.203	0.011	-	-	0.094	-
HCM Control Delay (s)	17.7	10.9	-	-	9.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.3	-

Intersection			
Intersection Delay, s/veh	4.8		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	110	320	0
Demand Flow Rate, veh/h	113	327	0
Vehicles Circulating, veh/h	254	35	130
Vehicles Exiting, veh/h	175	332	232
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.4	4.9	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	113	327	
Cap Entry Lane, veh/h	1065	1331	
Entry HV Adj Factor	0.978	0.980	
Flow Entry, veh/h	110	320	
Cap Entry, veh/h	1041	1305	
V/C Ratio	0.106	0.246	
Control Delay, s/veh	4.4	4.9	
LOS	A	A	
95th %tile Queue, veh	0	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	301		776	199
Demand Flow Rate, veh/h	307		791	203
Vehicles Circulating, veh/h	91		86	169
Vehicles Exiting, veh/h	281		312	708
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	4.0		10.8	4.7
Approach LOS	A		B	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.280	0.720	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	86	221	791	203
Cap Entry Lane, veh/h	1307	1307	1264	1161
Entry HV Adj Factor	0.977	0.982	0.981	0.981
Flow Entry, veh/h	84	217	776	199
Cap Entry, veh/h	1277	1284	1240	1140
V/C Ratio	0.066	0.169	0.626	0.175
Control Delay, s/veh	3.3	4.2	10.8	4.7
LOS	A	A	B	A
95th %tile Queue, veh	0	1	5	1

HCM 6th Signalized Intersection Capacity Analysis  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	75	135	101	34	49	75	66	371	39	18	109	24
Future Volume (veh/h)	75	135	101	34	49	75	66	371	39	18	109	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	96	173	129	52	74	114	106	598	63	23	138	30
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.62	0.62	0.62	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	168	371	283	143	341	257	154	738	560	53	623	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.20	0.09	0.18	0.18	0.09	0.39	0.39	0.03	0.33	0.33
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.8	20.6	8.9	25.5	19.6	21.4	29.8	17.2	3.7	31.9	13.5	12.7
Ln Grp LOS	C	C	A	C	B	C	C	B	A	C	B	B
Approach Vol, veh/h		398			240			767			191	
Approach Delay, s/veh		18.3			21.7			17.8			15.6	
Approach LOS		B			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		5.8	25.9	15.0	8.8	9.2	22.5	9.7	14.1			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		10.4	46.4	32.0	8.6	22.0	34.8	9.3	31.3			
Max Allow Headway (MAH), s		4.1	4.0	4.2	4.1	4.1	4.1	4.1	4.3			
Max Q Clear (g_c+1), s		2.8	17.8	6.5	3.7	5.5	5.0	5.1	6.0			
Green Ext Time (g_e), s		0.0	2.6	1.1	0.0	0.2	0.5	0.1	0.6			
Prob of Phs Call (p_c)		0.30	1.00	1.00	0.55	0.81	1.00	0.77	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.35	0.00	0.00	0.89	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		1641			1641	1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			1870	1870			1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1419	1428			1417		1405			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

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Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	23	0	0	52	106	0	96	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	1641	0
Q Serve Time (g_s), s	0.8	0.0	0.0	1.7	3.5	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	0.0	1.7	3.5	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	53	0	0	143	154	0	168	0
V/C Ratio (X)	0.43	0.00	0.00	0.36	0.69	0.00	0.57	0.00
Avail Cap (c_a), veh/h	325	0	0	304	667	0	325	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.4	0.0	0.0	23.9	24.4	0.0	23.8	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.0	1.6	5.4	0.0	3.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.9	0.0	0.0	25.5	29.8	0.0	26.8	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.0	0.5	1.1	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.0	0.6	1.4	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.15	0.34	0.00	0.29	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	598	173	0	0	138	0	74
Grp Sat Flow (s), veh/h/ln	0	1870	1870	0	0	1870	0	1870
Q Serve Time (g_s), s	0.0	15.8	4.5	0.0	0.0	3.0	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	15.8	4.5	0.0	0.0	3.0	0.0	1.9
Lane Grp Cap (c), veh/h	0	738	371	0	0	623	0	341
V/C Ratio (X)	0.00	0.81	0.47	0.00	0.00	0.22	0.00	0.22
Avail Cap (c_a), veh/h	0	1582	1134	0	0	1192	0	1111
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	19.7	0.0	0.0	13.3	0.0	19.3
Incr Delay (d2), s/veh	0.0	2.2	0.9	0.0	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	20.6	0.0	0.0	13.5	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	4.7	1.6	0.0	0.0	0.9	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	1.7	0.0	0.0	1.0	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.01	0.00	0.00	0.01	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	63	129	0	0	30	0	114
Grp Sat Flow (s), veh/h/ln	0	1419	1428	0	0	1417	0	1405
Q Serve Time (g_s), s	0.0	0.9	2.8	0.0	0.0	0.8	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	0.9	2.8	0.0	0.0	0.8	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	560	283	0	0	472	0	257
V/C Ratio (X)	0.00	0.11	0.46	0.00	0.00	0.06	0.00	0.44
Avail Cap (c_a), veh/h	0	1200	866	0	0	903	0	835
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.6	7.7	0.0	0.0	12.6	0.0	20.2
Incr Delay (d2), s/veh	0.0	0.1	1.1	0.0	0.0	0.1	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	8.9	0.0	0.0	12.7	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	0.3	1.1	0.0	0.0	0.2	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	1.2	0.0	0.0	0.2	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.06	0.56	0.00	0.00	0.05	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh  
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕	↕	↕			↕	
Traffic Vol, veh/h	70	0	4	13	5	119	1	308	6	26	280	30
Future Vol, veh/h	70	0	4	13	5	119	1	308	6	26	280	30
Peak Hour Factor	0.54	0.54	0.54	0.65	0.65	0.65	0.71	0.71	0.71	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	0	7	20	8	183	1	434	8	37	400	43
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.8	12.6	13.7	14
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	95%	72%	0%	16%	0%	
Vol Thru, %	99%	96%	0%	28%	0%	84%	82%	
Vol Right, %	0%	4%	5%	0%	100%	0%	18%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	155	160	74	18	119	166	170	
LT Vol	1	0	70	13	0	26	0	
Through Vol	154	154	0	5	0	140	140	
RT Vol	0	6	4	0	119	0	30	
Lane Flow Rate	218	225	137	28	183	237	243	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.40	0.41	0.29	0.06	0.33	0.43	0.42	
Departure Headway (Hd)	6.598	6.568	7.645	7.749	6.67	6.646	6.44	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	548	550	471	464	542	545	563	
Service Time	4.309	4.279	5.669	5.469	4.384	4.346	4.14	
HCM Lane V/C Ratio	0.398	0.409	0.291	0.06	0.338	0.435	0.432	
HCM Control Delay	13.6	13.8	13.8	11	12.8	14.3	13.8	
HCM Lane LOS	B	B	B	B	B	B	B	
HCM 95th-tile Q	1.9	2	1.2	0.2	1.5	2.1	2.1	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	30	122	34	38	182	113	15	78	21	62	119	32
Future Volume (veh/h)	30	122	34	38	182	113	15	78	21	62	119	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	39	161	45	57	272	169	19	98	26	77	147	40
Peak Hour Factor	0.76	0.76	0.76	0.67	0.67	0.67	0.80	0.80	0.80	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	117	485	136	138	385	239	144	317	78	219	250	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.34	0.31	0.08	0.36	0.32	0.24	0.24	0.22	0.24	0.24	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.7	0.0	9.2	17.8	0.0	11.8	11.7	0.0	0.0	13.1	0.0	0.0
Ln Grp LOS	B	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		245			498			143			264	
Approach Delay, s/veh		10.6			12.5			11.7			13.1	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	8	7			
Case No			8.0	2.0	4.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			12.8	7.1	16.5		12.8	17.0	6.6			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			24.1	12.1	38.3		24.1	44.1	6.3			
Max Allow Headway (MAH), s			4.1	4.1	4.1		4.1	4.1	4.1			
Max Q Clear (g_c+1), s			4.4	3.2	5.1		7.1	9.9	2.8			
Green Ext Time (g_e), s			0.4	0.1	0.7		0.8	1.8	0.0			
Prob of Phs Call (p_c)			1.00	0.44	1.00		1.00	1.00	0.33			
Prob of Max Out (p_x)			0.00	0.00	0.00		0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1		7			
Mvmt Sat Flow, veh/h			130	1641			378		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6	8				
Mvmt Sat Flow, veh/h			1315		1406		1034	1079				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16	18				
Mvmt Sat Flow, veh/h			321		393		252	671				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	0	7			
Lane Assignment			L+T+RL (Prot)				L+T+R		L (Prot)			



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Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	143	57	0	0	264	0	39
Grp Sat Flow (s), veh/h/ln	0	1766	1641	0	0	1664	0	1641
Q Serve Time (g_s), s	0.0	0.0	1.2	0.0	0.0	2.7	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	2.4	1.2	0.0	0.0	5.1	0.0	0.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1215	0	0	0	1287	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1858	0	0	0	1843	0	0
Perm LT Eff Green (g_p), s	0.0	8.8	0.0	0.0	0.0	8.8	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	3.7	0.0	0.0	0.0	6.4	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Time to First Blk (g_f), s	0.0	3.8	0.0	0.0	0.0	1.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	2.4	0.0	0.0	0.0	1.8	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.13	1.00	0.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	538	138	0	0	530	0	117
V/C Ratio (X)	0.00	0.27	0.41	0.00	0.00	0.50	0.00	0.33
Avail Cap (c_a), veh/h	0	1291	604	0	0	1245	0	343
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	15.8	0.0	0.0	12.4	0.0	16.1
Incr Delay (d2), s/veh	0.0	0.3	2.0	0.0	0.0	0.7	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.7	17.8	0.0	0.0	13.1	0.0	17.7
1st-Term Q (Q1), veh/ln	0.0	0.6	0.3	0.0	0.0	1.1	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.4	0.0	0.0	1.2	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.03	0.00	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment				T+R			T+R	
Lanes in Grp	0	0	0	1	0	0	1	0
Grp Vol (v), veh/h	0	0	0	206	0	0	441	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1800	0	0	1750	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.1	0.0	0.0	7.9	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.1	0.0	0.0	7.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.18	0.00	0.22	0.00	0.15	0.38	0.00
Lane Grp Cap (c), veh/h	0	0	0	620	0	0	625	0
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.00	0.71	0.00
Avail Cap (c_a), veh/h	0	0	0	1959	0	0	2184	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.9	0.0	0.0	10.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.2	0.0	0.0	11.8	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Intersection

Intersection Delay, s/veh  
Intersection LOS B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	42	245	428	28	16	62
Future Vol, veh/h	42	245	428	28	16	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	266	465	30	17	67
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11	14.4	9.1
HCM LOS	B	B	A

Lane	EBLn	WBLn	SBLn1
Vol Left, %	15%	0%	21%
Vol Thru, %	85%	94%	0%
Vol Right, %	0%	6%	79%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	287	456	78
LT Vol	42	0	16
Through Vol	245	428	0
RT Vol	0	28	62
Lane Flow Rate	312	496	85
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.614	0.124
Departure Headway (Hd)	4.706	4.463	5.247
Convergence, Y/N	Yes	Yes	Yes
Cap	761	808	678
Service Time	2.752	2.503	3.316
HCM Lane V/C Ratio	0.41	0.614	0.125
HCM Control Delay	11	14.4	9.1
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2	4.3	0.4

**Intersection**

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖		↗	↖	↗	↗
Traffic Vol, veh/h	165	10	13	334	18	20
Future Vol, veh/h	165	10	13	334	18	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	11	15	380	36	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	201
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1371
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1371
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.9
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	601	-	-	1371	-
HCM Lane V/C Ratio	0.126	-	-	0.011	-
HCM Control Delay (s)	11.9	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

**Intersection**

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	8	150	17	56	246	5	12	0	44	18	0	50
Future Vol, veh/h	8	150	17	56	246	5	12	0	44	18	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	87	87	87	92	92	92	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	170	19	64	283	6	13	0	48	23	0	63

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	289	0	517
Stage 1	-	-	414
Stage 2	-	-	103
Critical Hdwy	4.14	4.14	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	2.22	3.52
Pot Cap-1 Maneuver	1270	1382	488
Stage 1	-	-	635
Stage 2	-	-	910
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1270	1382	458
Mov Cap-2 Maneuver	-	-	458
Stage 1	-	-	631
Stage 2	-	-	860

Approach	EB	WB	SB
HCM Control Delay, s	0.4	1.4	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1270	-	-	1382	-	-	706
HCM Lane V/C Ratio	0.007	-	-	0.047	-	-	0.12
HCM Control Delay (s)	7.9	-	-	7.7	-	-	10.8
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.4

**Intersection**

Int Delay, s/veh 1.4

**Movement EBT EBR WBL WBT NBL NBR**

Lane Configurations	↑↓			↑↓		↑
Traffic Vol, veh/h	209	23	8	271	0	48
Future Vol, veh/h	209	23	8	271	0	48
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	240	26	9	308	0	96

**Major/Minor Major1 Major2 Minor1**

Conflicting Flow All	0	0	266	0	-	133
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1295	-	0	892
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1295	-	-	892
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach EB WB NB**

HCM Control Delay, s	0	0.2	9.5
HCM LOS			A

**Minor Lane/Major MvmNBLn1 EBT EBR WBL WBT**

Capacity (veh/h)	892	-	-	1295	-
HCM Lane V/C Ratio	0.108	-	-	0.007	-
HCM Control Delay (s)	9.5	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	122	58	57	138	28	25	90	38	41	146	75
Future Volume (veh/h)	90	122	58	57	138	28	25	90	38	41	146	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	129	174	83	78	189	38	39	141	59	53	190	97
Peak Hour Factor	0.70	0.70	0.70	0.73	0.73	0.73	0.64	0.64	0.64	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	220	499	227	197	582	114	83	486	193	99	475	231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.21	0.18	0.12	0.20	0.16	0.05	0.20	0.18	0.06	0.21	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.3	13.6	14.1	17.1	13.9	14.2	22.0	13.7	14.0	22.2	14.0	14.4
Ln Grp LOS	B	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		386			305			239			340	
Approach Delay, s/veh		15.3			14.8			15.2			15.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	8	7			
Case No		2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0			
Phs Duration (G+Y+Rc), s		6.3	11.7	12.3	8.7	6.0	12.0	11.7	9.2			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		6.4	33.7	44.3	12.8	5.6	34.5	32.4	24.7			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		3.2	4.0	4.6	3.7	2.9	5.0	4.2	4.9			
Green Ext Time (g_e), s		0.0	0.7	0.9	0.1	0.0	1.0	0.7	0.4			
Prob of Phs Call (p_c)		0.44	1.00	1.00	0.57	0.34	1.00	1.00	0.75			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5					7	
Mvmt Sat Flow, veh/h		1641			1641	1641					1641	
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6	8				
Mvmt Sat Flow, veh/h			2464	2356			2299	2947				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16	18				
Mvmt Sat Flow, veh/h			980	1069			1118	579				
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	0	7			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)			L (Prot)			

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	53	0	0	78	39	0	0	129
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	0	1641
Q Serve Time (g_s), s	1.2	0.0	0.0	1.7	0.9	0.0	0.0	2.9
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	1.7	0.9	0.0	0.0	2.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	99	0	0	197	83	0	0	220
V/C Ratio (X)	0.54	0.00	0.00	0.40	0.47	0.00	0.00	0.59
Avail Cap (c_a), veh/h	295	0	0	594	261	0	0	1095
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	17.8	0.0	0.0	15.8	18.0	0.0	0.0	15.8
Incr Delay (d2), s/veh	4.5	0.0	0.0	1.3	4.0	0.0	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.2	0.0	0.0	17.1	22.0	0.0	0.0	18.3
1st-Term Q (Q1), veh/ln	0.3	0.0	0.0	0.4	0.2	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.5	0.0	0.0	0.5	0.3	0.0	0.0	0.9
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.06	0.06	0.00	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment		T	T			T	T	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	100	129	0	0	145	112	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	1777	0
Q Serve Time (g_s), s	0.0	1.9	2.4	0.0	0.0	2.7	2.1	0.0
Cycle Q Clear Time (g_c), s	0.0	1.9	2.4	0.0	0.0	2.7	2.1	0.0
Lane Grp Cap (c), veh/h	0	350	376	0	0	367	351	0
V/C Ratio (X)	0.00	0.28	0.34	0.00	0.00	0.39	0.32	0.00
Avail Cap (c_a), veh/h	0	1565	2080	0	0	1601	1537	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	13.0	0.0	0.0	13.3	13.4	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.5	0.0	0.0	0.7	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.7	13.6	0.0	0.0	14.0	13.9	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.6	0.0	0.0	0.7	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0



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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.7	0.0	0.0	0.8	0.6	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment		T+R	T+R			T+R	T+R	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	100	128	0	0	142	115	0
Grp Sat Flow (s), veh/h/ln	0	1667	1649	0	0	1640	1750	0
Q Serve Time (g_s), s	0.0	2.0	2.6	0.0	0.0	3.0	2.2	0.0
Cycle Q Clear Time (g_c), s	0.0	2.0	2.6	0.0	0.0	3.0	2.2	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.65	0.00	0.00	0.68	0.33	0.00
Lane Grp Cap (c), veh/h	0	329	349	0	0	339	346	0
V/C Ratio (X)	0.00	0.31	0.37	0.00	0.00	0.42	0.33	0.00
Avail Cap (c_a), veh/h	0	1468	1930	0	0	1477	1514	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	13.5	13.5	0.0	0.0	13.6	13.6	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.0	0.0	0.8	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	14.1	0.0	0.0	14.4	14.2	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.6	0.0	0.0	0.7	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.7	0.0	0.0	0.8	0.6	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh	18
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	108	85	41	68	451
Future Vol, veh/h	48	108	85	41	68	451
Peak Hour Factor	0.80	0.80	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	135	110	53	88	586
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right NB			WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	10.7	11.3	21.8
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	67%
Vol Thru, %	0%	0%	31%	33%
Vol Right, %	0%	100%	69%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	451	156	126
LT Vol	68	0	0	85
Through Vol	0	0	48	41
RT Vol	0	451	108	0
Lane Flow Rate	88	586	195	164
Geometry Grp	7	7	2	2
Degree of Util (X)	0.149	0.794	0.293	0.272
Departure Headway (Hd)	6.093	4.882	5.407	5.99
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	593	744	663	599
Service Time	3.793	2.582	3.447	4.032
HCM Lane V/C Ratio	0.148	0.788	0.294	0.274
HCM Control Delay	9.9	23.6	10.7	11.3
HCM Lane LOS	A	C	B	B
HCM 95th-tile Q	0.5	8.1	1.2	1.1

**Intersection**

Int Delay, s/veh 2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	212	268	66	68	56	5
Future Vol, veh/h	212	268	66	68	56	5
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	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	73	73	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	279	353	90	93	74	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	632
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	951
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	951
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	17.4
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	351	604	-	-	951	-
HCM Lane V/C Ratio	0.21	0.011	-	-	0.095	-
HCM Control Delay (s)	18	11	-	-	9.2	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.3	-

Intersection			
Intersection Delay, s/veh	4.8		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	110	326	0
Demand Flow Rate, veh/h	113	333	0
Vehicles Circulating, veh/h	259	35	130
Vehicles Exiting, veh/h	175	337	238
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.4	4.9	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	113	333	
Cap Entry Lane, veh/h	1060	1331	
Entry HV Adj Factor	0.978	0.980	
Flow Entry, veh/h	110	326	
Cap Entry, veh/h	1036	1305	
V/C Ratio	0.107	0.250	
Control Delay, s/veh	4.4	4.9	
LOS	A	A	
95th %tile Queue, veh	0	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	305		797	200
Demand Flow Rate, veh/h	311		813	204
Vehicles Circulating, veh/h	92		86	174
Vehicles Exiting, veh/h	286		317	725
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	4.0		11.2	4.7
Approach LOS	A		B	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.277	0.723	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	86	225	813	204
Cap Entry Lane, veh/h	1306	1306	1264	1155
Entry HV Adj Fact	0.977	0.982	0.981	0.981
Flow Entry, veh/h	84	221	797	200
Cap Entry, veh/h	1276	1283	1240	1134
V/C Ratio	0.066	0.172	0.643	0.177
Control Delay, s/veh	3.4	4.3	11.2	4.7
LOS	A	A	B	A
95th %tile Queue, veh	0	1	5	1

HCM 6th Signalized Intersection Capacity Analysis  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	75	135	103	38	49	75	71	389	51	18	114	24
Future Volume (veh/h)	75	135	103	38	49	75	71	389	51	18	114	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	96	173	132	58	74	114	115	627	82	23	144	30
Peak Hour Factor	0.78	0.78	0.78	0.66	0.66	0.66	0.62	0.62	0.62	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	167	366	279	141	337	253	166	763	579	52	633	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.20	0.09	0.18	0.18	0.10	0.41	0.41	0.03	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.7	21.4	9.3	26.8	20.4	22.2	30.1	17.4	3.8	33.0	13.8	12.9
Ln Grp LOS	C	C	A	C	C	C	C	B	A	C	B	B
Approach Vol, veh/h		401			246			824			197	
Approach Delay, s/veh		18.9			22.8			17.8			15.9	
Approach LOS		B			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		5.8	27.4	15.2	8.9	9.8	23.4	9.8	14.3			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		9.4	47.4	32.3	7.3	24.1	32.7	8.3	31.3			
Max Allow Headway (MAH), s		4.1	4.0	4.2	4.1	4.1	4.1	4.1	4.3			
Max Q Clear (g_c+1), s		2.8	19.1	6.7	3.9	5.9	5.2	5.2	6.2			
Green Ext Time (g_e), s		0.0	2.9	1.1	0.0	0.3	0.5	0.1	0.6			
Prob of Phs Call (p_c)		0.31	1.00	1.00	0.60	0.84	1.00	0.78	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	1.00	0.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		1641			1641	1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			1870	1870			1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1419	1428			1417		1405			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

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Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	23	0	0	58	115	0	96	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	1641	0
Q Serve Time (g_s), s	0.8	0.0	0.0	1.9	3.9	0.0	3.2	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	0.0	1.9	3.9	0.0	3.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	52	0	0	141	166	0	167	0
V/C Ratio (X)	0.44	0.00	0.00	0.41	0.69	0.00	0.58	0.00
Avail Cap (c_a), veh/h	286	0	0	257	706	0	286	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.3	0.0	0.0	24.9	24.9	0.0	24.6	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.0	1.9	5.1	0.0	3.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.0	0.0	0.0	26.8	30.1	0.0	27.7	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.0	0.6	1.3	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.0	0.7	1.5	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.17	0.38	0.00	0.30	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	627	173	0	0	144	0	74
Grp Sat Flow (s), veh/h/ln	0	1870	1870	0	0	1870	0	1870
Q Serve Time (g_s), s	0.0	17.1	4.7	0.0	0.0	3.2	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	17.1	4.7	0.0	0.0	3.2	0.0	1.9
Lane Grp Cap (c), veh/h	0	763	366	0	0	633	0	337
V/C Ratio (X)	0.00	0.82	0.47	0.00	0.00	0.23	0.00	0.22
Avail Cap (c_a), veh/h	0	1564	1108	0	0	1085	0	1076
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.1	20.5	0.0	0.0	13.6	0.0	20.1
Incr Delay (d2), s/veh	0.0	2.3	0.9	0.0	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	21.4	0.0	0.0	13.8	0.0	20.4
1st-Term Q (Q1), veh/ln	0.0	5.1	1.7	0.0	0.0	1.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	1.8	0.0	0.0	1.0	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.01	0.00	0.00	0.01	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	82	132	0	0	30	0	114
Grp Sat Flow (s), veh/h/ln	0	1419	1428	0	0	1417	0	1405
Q Serve Time (g_s), s	0.0	1.2	2.9	0.0	0.0	0.8	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	1.2	2.9	0.0	0.0	0.8	0.0	4.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	579	279	0	0	480	0	253
V/C Ratio (X)	0.00	0.14	0.47	0.00	0.00	0.06	0.00	0.45
Avail Cap (c_a), veh/h	0	1187	846	0	0	822	0	808
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.6	8.1	0.0	0.0	12.8	0.0	21.0
Incr Delay (d2), s/veh	0.0	0.1	1.2	0.0	0.0	0.1	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.8	9.3	0.0	0.0	12.9	0.0	22.2
1st-Term Q (Q1), veh/ln	0.0	0.5	1.2	0.0	0.0	0.2	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	1.3	0.0	0.0	0.2	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.07	0.60	0.00	0.00	0.05	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B



**Intersection**

Intersection Delay, s/veh  
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕	↕	↕			↕	
Traffic Vol, veh/h	70	0	4	14	5	119	1	343	9	26	292	30
Future Vol, veh/h	70	0	4	14	5	119	1	343	9	26	292	30
Peak Hour Factor	0.54	0.54	0.54	0.65	0.65	0.65	0.71	0.71	0.71	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	0	7	22	8	183	1	483	13	37	417	43
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	14.2	12.9	15	14.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	1%	0%	95%	74%	0%	15%	0%	
Vol Thru, %	99%	95%	0%	26%	0%	85%	83%	
Vol Right, %	0%	5%	5%	0%	100%	0%	17%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	173	181	74	19	119	172	176	
LT Vol	1	0	70	14	0	26	0	
Through Vol	172	172	0	5	0	146	146	
RT Vol	0	9	4	0	119	0	30	
Lane Flow Rate	243	254	137	29	183	246	251	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.45	0.468	0.298	0.064	0.348	0.46	0.457	
Departure Headway (Hd)	6.668	6.629	7.832	7.942	6.847	6.743	6.544	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	542	544	459	452	525	536	551	
Service Time	4.401	4.362	5.873	5.679	4.583	4.476	4.277	
HCM Lane V/C Ratio	0.448	0.467	0.298	0.064	0.349	0.459	0.456	
HCM Control Delay	14.8	15.1	14.2	11.2	13.2	15.1	14.7	
HCM Lane LOS	B	C	B	B	B	C	B	
HCM 95th-tile Q	2.3	2.5	1.2	0.2	1.5	2.4	2.4	

HCM 6th Signalized Intersection Capacity Analysis  
7: Rd 156 & Visalia Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	125	34	40	192	113	15	78	22	62	119	32
Future Volume (veh/h)	30	125	34	40	192	113	15	78	22	62	119	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	39	164	45	60	287	169	19	98	28	77	147	40
Peak Hour Factor	0.76	0.76	0.76	0.67	0.67	0.67	0.80	0.80	0.80	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	116	494	136	139	402	236	141	311	82	217	248	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.35	0.31	0.09	0.36	0.33	0.24	0.24	0.22	0.24	0.24	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.0	0.0	9.2	18.1	0.0	11.8	11.9	0.0	0.0	13.3	0.0	0.0
Ln Grp LOS	B	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		248			516			145			264	
Approach Delay, s/veh		10.6			12.6			11.9			13.3	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	8	7			
Case No			8.0	2.0	4.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			12.9	7.1	16.9		12.9	17.4	6.6			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			24.1	12.7	37.7		24.1	44.2	6.2			
Max Allow Headway (MAH), s			4.1	4.1	4.1		4.1	4.1	4.1			
Max Q Clear (g_c+1), s			4.5	3.3	5.2		7.1	10.3	2.8			
Green Ext Time (g_e), s			0.4	0.1	0.7		0.8	1.8	0.0			
Prob of Phs Call (p_c)			1.00	0.46	1.00		1.00	1.00	0.33			
Prob of Max Out (p_x)			0.00	0.00	0.00		0.00	0.00	1.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1		7			
Mvmt Sat Flow, veh/h			128	1641			378		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6	8				
Mvmt Sat Flow, veh/h			1295		1413		1035	1104				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16	18				
Mvmt Sat Flow, veh/h			341		388		252	650				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	0	7			
Lane Assignment			L+T+RL (Prot)				L+T+R		L (Prot)			

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Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	145	60	0	0	264	0	39
Grp Sat Flow (s), veh/h/ln	0	1764	1641	0	0	1665	0	1641
Q Serve Time (g_s), s	0.0	0.0	1.3	0.0	0.0	2.7	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	2.5	1.3	0.0	0.0	5.1	0.0	0.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1215	0	0	0	1285	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1858	0	0	0	1843	0	0
Perm LT Eff Green (g_p), s	0.0	8.9	0.0	0.0	0.0	8.9	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	3.7	0.0	0.0	0.0	6.4	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Time to First Blk (g_f), s	0.0	3.9	0.0	0.0	0.0	1.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	2.5	0.0	0.0	0.0	1.8	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.13	1.00	0.00	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	534	139	0	0	526	0	116
V/C Ratio (X)	0.00	0.27	0.43	0.00	0.00	0.50	0.00	0.34
Avail Cap (c_a), veh/h	0	1272	622	0	0	1227	0	333
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.7	16.0	0.0	0.0	12.6	0.0	16.3
Incr Delay (d2), s/veh	0.0	0.3	2.1	0.0	0.0	0.7	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.9	18.1	0.0	0.0	13.3	0.0	18.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.3	0.0	0.0	1.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.4	0.0	0.0	1.3	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.03	0.00	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment				T+R			T+R	
Lanes in Grp	0	0	0	1	0	0	1	0
Grp Vol (v), veh/h	0	0	0	209	0	0	456	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1801	0	0	1753	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	8.3	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.2	0.0	0.0	8.3	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.00	0.22	0.00	0.15	0.37	0.00
Lane Grp Cap (c), veh/h	0	0	0	630	0	0	638	0
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.00	0.71	0.00
Avail Cap (c_a), veh/h	0	0	0	1903	0	0	2162	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.9	0.0	0.0	10.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.2	0.0	0.0	11.8	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/v	13
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	42	249	439	28	16	62
Future Vol, veh/h	42	249	439	28	16	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	271	477	30	17	67
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11.1	14.9	9.1
HCM LOS	B	B	A

Lane	EBLn	WBLn	SBLn1
Vol Left, %	14%	0%	21%
Vol Thru, %	86%	94%	0%
Vol Right, %	0%	6%	79%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	291	467	78
LT Vol	42	0	16
Through Vol	249	439	0
RT Vol	0	28	62
Lane Flow Rate	316	508	85
Geometry Grp	1	1	1
Degree of Util (X)	0.415	0.63	0.124
Departure Headway (Hd)	4.721	4.471	5.282
Convergence, Y/N	Yes	Yes	Yes
Cap	759	807	674
Service Time	2.766	2.51	3.354
HCM Lane V/C Ratio	0.416	0.629	0.126
HCM Control Delay	11.1	14.9	9.1
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2.1	4.5	0.4

**Intersection**

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	169	10	13	345	18	20
Future Vol, veh/h	169	10	13	345	18	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	11	15	392	36	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	205
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1366
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1366
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	592	-	-	1366	-
HCM Lane V/C Ratio	0.128	-	-	0.011	-
HCM Control Delay (s)	12	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

**Intersection**

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	8	150	21	72	246	5	23	0	91	18	0	50
Future Vol, veh/h	8	150	21	72	246	5	23	0	91	18	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	87	87	87	92	92	92	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	170	24	83	283	6	25	0	99	23	0	63

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	289	0	555
Stage 1	-	-	452
Stage 2	-	-	103
Critical Hdwy	4.14	4.14	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	2.22	3.52
Pot Cap-1 Maneuver	1270	1377	462
Stage 1	-	-	608
Stage 2	-	-	910
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1270	1377	426
Mov Cap-2 Maneuver	-	-	426
Stage 1	-	-	604
Stage 2	-	-	844

Approach	EB	WB	SB
HCM Control Delay, s	0.4	1.7	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1270	-	-	1377	-	-	685
HCM Lane V/C Ratio	0.007	-	-	0.06	-	-	-0.124
HCM Control Delay (s)	7.9	-	-	7.8	-	-	11
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0.4

**Intersection**

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	256	23	8	287	0	48
Future Vol, veh/h	256	23	8	287	0	48
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	294	26	9	326	0	96

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	320
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1237
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1237
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.7
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	857	-	-	1237	-
HCM Lane V/C Ratio	0.112	-	-	0.007	-
HCM Control Delay (s)	9.7	-	-	7.9	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	131	58	57	141	28	25	90	38	41	146	88
Future Volume (veh/h)	128	131	58	57	141	28	25	90	38	41	146	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	183	187	83	78	193	38	39	141	59	53	190	114
Peak Hour Factor	0.70	0.70	0.70	0.73	0.73	0.73	0.64	0.64	0.64	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	288	500	212	261	565	109	80	485	193	95	446	253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.18	0.21	0.18	0.16	0.19	0.16	0.05	0.20	0.18	0.06	0.21	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.5	15.0	15.5	16.3	15.4	15.6	24.1	14.9	15.2	24.4	15.4	15.9
Ln Grp LOS	B	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		453			309			239			357	
Approach Delay, s/veh		16.6			15.7			16.5			16.9	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	8	7			
Case No		2.0	4.0	4.0	2.0	2.0	4.0	4.0	2.0			
Phs Duration (G+Y+Rc), s		6.5	12.3	12.8	10.7	6.1	12.7	12.1	11.4			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		5.4	33.7	48.1	13.0	4.0	35.1	32.4	28.7			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		3.3	4.2	5.0	3.8	3.0	5.5	4.5	6.4			
Green Ext Time (g_e), s		0.0	0.7	1.0	0.1	0.0	1.1	0.7	0.6			
Prob of Phs Call (p_c)		0.46	1.00	1.00	0.60	0.37	1.00	1.00	0.88			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5					7	
Mvmt Sat Flow, veh/h		1641			1641	1641					1641	
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6	8				
Mvmt Sat Flow, veh/h			2464	2411			2164	2959				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16	18				
Mvmt Sat Flow, veh/h			980	1024			1230	570				
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	0	7			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)			L (Prot)			

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	53	0	0	78	39	0	0	183
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	0	1641
Q Serve Time (g_s), s	1.3	0.0	0.0	1.8	1.0	0.0	0.0	4.4
Cycle Q Clear Time (g_c), s	1.3	0.0	0.0	1.8	1.0	0.0	0.0	4.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	95	0	0	261	80	0	0	288
V/C Ratio (X)	0.56	0.00	0.00	0.30	0.49	0.00	0.00	0.63
Avail Cap (c_a), veh/h	233	0	0	555	179	0	0	1164
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	19.4	0.0	0.0	15.7	19.6	0.0	0.0	16.2
Incr Delay (d2), s/veh	5.0	0.0	0.0	0.6	4.5	0.0	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.4	0.0	0.0	16.3	24.1	0.0	0.0	18.5
1st-Term Q (Q1), veh/ln	0.4	0.0	0.0	0.5	0.3	0.0	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.5	0.0	0.0	0.5	0.4	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.09	0.00	0.00	0.07	0.06	0.00	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment		T	T			T	T	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	100	136	0	0	154	114	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	1777	0
Q Serve Time (g_s), s	0.0	2.0	2.8	0.0	0.0	3.2	2.3	0.0
Cycle Q Clear Time (g_c), s	0.0	2.0	2.8	0.0	0.0	3.2	2.3	0.0
Lane Grp Cap (c), veh/h	0	350	369	0	0	366	339	0
V/C Ratio (X)	0.00	0.28	0.37	0.00	0.00	0.42	0.34	0.00
Avail Cap (c_a), veh/h	0	1442	2076	0	0	1500	1416	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	14.4	14.4	0.0	0.0	14.6	14.8	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.6	0.0	0.0	0.8	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	15.0	0.0	0.0	15.4	15.4	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.8	0.0	0.0	0.9	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.8	0.0	0.0	1.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment		T+R	T+R			T+R	T+R	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	100	134	0	0	150	117	0
Grp Sat Flow (s), veh/h/ln	0	1667	1658	0	0	1616	1751	0
Q Serve Time (g_s), s	0.0	2.2	3.0	0.0	0.0	3.5	2.5	0.0
Cycle Q Clear Time (g_c), s	0.0	2.2	3.0	0.0	0.0	3.5	2.5	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.59	0.62	0.00	0.00	0.76	0.33	0.00
Lane Grp Cap (c), veh/h	0	328	344	0	0	333	334	0
V/C Ratio (X)	0.00	0.31	0.39	0.00	0.00	0.45	0.35	0.00
Avail Cap (c_a), veh/h	0	1353	1937	0	0	1365	1396	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	14.7	14.8	0.0	0.0	14.9	15.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.7	0.0	0.0	1.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	15.5	0.0	0.0	15.9	15.6	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.8	0.0	0.0	0.9	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.9	0.0	0.0	1.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	70	0	4	19	5	119	1	498	17	26	377	30
Future Volume (veh/h)	70	0	4	19	5	119	1	498	17	26	377	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	130	0	7	29	8	183	1	701	24	37	539	43
Peak Hour Factor	0.54	0.54	0.54	0.65	0.65	0.65	0.71	0.71	0.71	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	233	2	8	272	67	223	40	2564	88	155	2182	173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.15	0.00	0.15	0.15	0.15	0.15	0.75	0.75	0.75	0.75	0.75	0.75
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.8	0.0	0.0	33.1	0.0	44.1	4.1	0.0	4.2	3.9	0.0	4.0
Ln Grp LOS	D	A	A	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h		137			220			726			619	
Approach Delay, s/veh		39.8			42.3			4.1			4.0	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			8.0		8.0		8.0		7.0			
Phs Duration (G+Y+Rc), s			71.7		18.3		71.7		18.3			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			50.5		30.5		50.5		30.5			
Max Allow Headway (MAH), s			4.0		4.5		4.2		4.3			
Max Q Clear (g_c+1), s			7.9		13.4		7.2		12.9			
Green Ext Time (g_e), s			2.7		0.4		2.5		0.7			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			0		1014		147		1308			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3433		14		2922		436			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			117		55		231		1460			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L+T		L+T+R		L+T		L+T			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	382	0	137	0	310	0	37
Grp Sat Flow (s), veh/h/ln	0	1870	0	1083	0	1640	0	1744
Q Serve Time (g_s), s	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.8	0.0	11.4	0.0	4.5	0.0	1.6
Perm LT Sat Flow (s_l), veh/h/ln	0	846	0	1211	0	741	0	1431
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	1795
Perm LT Eff Green (g_p), s	0.0	67.2	0.0	13.8	0.0	67.2	0.0	13.8
Perm LT Serve Time (g_u), s	0.0	62.0	0.0	12.2	0.0	61.4	0.0	2.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	61.1	0.0	0.1	0.0	14.6	0.0	0.6
Serve Time pre Blk (g_fs), s	0.0	5.8	0.0	0.1	0.0	4.5	0.0	0.6
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.95	0.00	0.12	0.00	0.78
Lane Grp Cap (c), veh/h	0	1437	0	244	0	1270	0	338
V/C Ratio (X)	0.00	0.27	0.00	0.56	0.00	0.24	0.00	0.11
Avail Cap (c_a), veh/h	0	1437	0	468	0	1270	0	615
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.6	0.0	37.7	0.0	3.5	0.0	32.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.1	0.0	39.8	0.0	3.9	0.0	33.1
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	2.7	0.0	0.9	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.9	0.0	1.0	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.06	0.00	0.01	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R				T+R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	344	0	0	0	309	0	183
Grp Sat Flow (s), veh/h/ln	0	1681	0	0	0	1660	0	1460
Q Serve Time (g_s), s	0.0	5.9	0.0	0.0	0.0	5.2	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	5.9	0.0	0.0	0.0	5.2	0.0	10.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.05	0.00	0.14	0.00	1.00
Lane Grp Cap (c), veh/h	0	1256	0	0	0	1240	0	223
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.25	0.00	0.82
Avail Cap (c_a), veh/h	0	1256	0	0	0	1240	0	495
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.6	0.0	0.0	0.0	3.5	0.0	36.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.5	0.0	7.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.2	0.0	0.0	0.0	4.0	0.0	44.1
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	0.9	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	0.0	0.0	1.0	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.01	0.00	2.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↕	↔		↙	↘			
Traffic Volume (veh/h)	42	290	513	28	16	62			
Future Volume (veh/h)	42	290	513	28	16	62			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	46	315	558	30	17	67			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	68	374	630	34	176	694			
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00			
Prop Arrive On Green	0.36	0.36	0.72	0.72	0.54	0.54			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	30.1	0.0	0.0	14.4	10.2	0.0			
Ln Grp LOS	C	A	A	B	B	A			
Approach Vol, veh/h		361	588		85				
Approach Delay, s/veh		30.1	14.4		10.2				
Approach LOS		C	B		B				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4				8
Case No		12.0			8.0				8.0
Phs Duration (G+Y+Rc), s		52.8			37.2				37.2
Change Period (Y+Rc), s		4.5			4.5				4.5
Max Green (Gmax), s		22.5			58.5				58.5
Max Allow Headway (MAH), s		4.3			4.2				4.0
Max Q Clear (g_c+1), s		4.3			31.7				24.2
Green Ext Time (g_e), s		0.2			1.4				2.4
Prob of Phs Call (p_c)		1.00			1.00				1.00
Prob of Max Out (p_x)		0.00			0.00				0.00
<b>Left-Turn Movement Data</b>									
Assigned Mvmt		1			7				3
Mvmt Sat Flow, veh/h		325			63				0
<b>Through Movement Data</b>									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		19			1045				1759
<b>Right-Turn Movement Data</b>									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1280			0				95
<b>Left Lane Group Data</b>									
Assigned Mvmt		1	0	0	7	0	0	0	3
Lane Assignment		L+T+R			L+T				



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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	85	0	0	361	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1624	0	0	1107	0	0	0	0
Q Serve Time (g_s), s	2.3	0.0	0.0	7.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	0.0	29.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	841	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	32.2	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	10.6	0.0	0.0	0.0	32.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.20	0.00	0.00	0.13	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	880	0	0	441	0	0	0	0
V/C Ratio (X)	0.10	0.00	0.00	0.82	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	880	0	0	912	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	10.0	0.0	0.0	26.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.2	0.0	0.0	30.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	5.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	5.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.00	0.18	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment								T+R
Lanes in Grp	0	0	0	0	0	0	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	588
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	1853
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	664
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	1205
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B



Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	→		↵	↑	↵	↶			
Traffic Volume (veh/h)	210	10	13	419	18	20			
Future Volume (veh/h)	210	10	13	419	18	20			
Number	4	14	3	8	5	12			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1723	1723	1870	1723	1723			
Adj Flow Rate, veh/h	241	11	15	476	36	40			
Peak Hour Factor	0.87	0.87	0.88	0.88	0.50	0.50			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence			Yes		Yes				
Cap, veh/h	508	23	295	536	442	492			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.57	0.57	0.29	0.29	0.61	0.61			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.0	15.8	28.8	36.0	7.2	0.0			
Ln Grp LOS	A	B	C	D	A	A			
Approach Vol, veh/h	252			491	77				
Approach Delay, s/veh	15.8			35.8	7.2				
Approach LOS	B			D	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4				8
Case No			12.0		8.0				6.0
Phs Duration (G+Y+Rc), s			59.7		30.3				30.3
Change Period (Y+Rc), s			4.5		4.5				4.5
Max Green (Gmax), s			25.5		55.5				55.5
Max Allow Headway (MAH), s			4.2		4.0				4.0
Max Q Clear (g_c+1), s			3.8		9.2				23.9
Green Ext Time (g_e), s			0.2		0.9				1.9
Prob of Phs Call (p_c)			1.00		1.00				1.00
Prob of Max Out (p_x)			0.00		0.00				0.00
<b>Left-Turn Movement Data</b>									
Assigned Mvmt			5		7				3
Mvmt Sat Flow, veh/h			721		0				1039
<b>Through Movement Data</b>									
Assigned Mvmt			2		4				8
Mvmt Sat Flow, veh/h			20		1775				1870
<b>Right-Turn Movement Data</b>									
Assigned Mvmt			12		14				18
Mvmt Sat Flow, veh/h			801		81				0
<b>Left Lane Group Data</b>									
Assigned Mvmt		0	5	0	7	0	0	0	3
Lane Assignment		L+T+R							L

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Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	77	0	0	0	0	0	15
Grp Sat Flow (s), veh/h/ln	0	1542	0	0	0	0	0	1039
Q Serve Time (g_s), s	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	1.8	0.0	0.0	0.0	0.0	0.0	8.2
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	1039
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.8
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Time to First Blk (g_f), s	0.0	0.0	0.0	25.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.47	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	946	0	0	0	0	0	295
V/C Ratio (X)	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.05
Avail Cap (c_a), veh/h	0	946	0	0	0	0	0	638
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.1	0.0	0.0	0.0	0.0	0.0	28.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	0.0	0.0	0.0	0.0	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment								T
Lanes in Grp	0	0	0	0	0	0	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	476
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	1870
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.9
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	536
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	1153
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8

HCM 6th Signalized Intersection Capacity Analysis  
9: Virginia Ave & Visalia Rd

AM 2043+Project with Mitigation  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	0	0	18
Lane Assignment	T+R							
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	252	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1856	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.52	0.00	0.04	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	532	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	1144	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	15.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

**Intersection**

Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	58	104	93	63	75	321
Future Vol, veh/h	58	104	93	63	75	321
Peak Hour Factor	0.82	0.82	0.86	0.86	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	127	108	73	82	349
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.6	10.3	11.2
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	60%
Vol Thru, %	0%	0%	36%	40%
Vol Right, %	0%	100%	64%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	321	162	156
LT Vol	75	0	0	93
Through Vol	0	0	58	63
RT Vol	0	321	104	0
Lane Flow Rate	82	349	198	181
Geometry Grp	7	7	2	2
Degree of Util (X)	0.135	0.46	0.263	0.267
Departure Headway (Hd)	5.959	4.749	4.794	5.298
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	598	754	743	673
Service Time	3.731	2.521	2.869	3.375
HCM Lane V/C Ratio	0.137	0.463	0.266	0.269
HCM Control Delay	9.7	11.6	9.6	10.3
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	2.4	1.1	1.1

**Intersection**

Int Delay, s/veh 2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	154	227	82	98	60	4
Future Vol, veh/h	154	227	82	98	60	4
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	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	83	83	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	159	234	99	118	73	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	393
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1166
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1166
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	14.9
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	426	763	-	-	1166	-
HCM Lane V/C Ratio	0.172	0.006	-	-	0.085	-
HCM Control Delay (s)	15.2	9.7	-	-	8.4	0
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.3	-

Intersection			
Intersection Delay, s/veh	5.2		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	237	195	0
Demand Flow Rate, veh/h	242	198	0
Vehicles Circulating, veh/h	330	41	123
Vehicles Exiting, veh/h	223	531	116
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.2	4.0	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	242	198	
Cap Entry Lane, veh/h	986	1323	
Entry HV Adj Factor	0.980	0.983	
Flow Entry, veh/h	237	195	
Cap Entry, veh/h	965	1301	
V/C Ratio	0.246	0.150	
Control Delay, s/veh	6.2	4.0	
LOS	A	A	
95th %tile Queue, veh	1	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	534		428	241
Demand Flow Rate, veh/h	544		437	246
Vehicles Circulating, veh/h	151		163	100
Vehicles Exiting, veh/h	195		532	500
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	5.3		6.9	4.7
Approach LOS	A		A	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.300	0.700	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	163	381	437	246
Cap Entry Lane, veh/h	1238	1238	1169	1246
Entry HV Adj Factor	0.982	0.982	0.980	0.980
Flow Entry, veh/h	160	374	428	241
Cap Entry, veh/h	1215	1215	1145	1221
V/C Ratio	0.132	0.308	0.374	0.197
Control Delay, s/veh	4.1	5.8	6.9	4.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	1



HCM 6th Signalized Intersection Capacity Analysis  
5: Farmersville Rd & Walnut Ave

PM 2023  
07/11/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	41	110	136	87	145	74	132	216	56	64	340	81
Future Volume (veh/h)	41	110	136	87	145	74	132	216	56	64	340	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	46	122	151	96	159	81	152	248	64	69	366	87
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	111	389	297	167	453	342	204	635	481	101	517	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.21	0.21	0.10	0.24	0.24	0.12	0.34	0.34	0.06	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.2	19.0	20.8	28.3	17.8	17.2	33.6	14.3	12.8	33.2	19.8	15.7
Ln Grp LOS	C	B	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		319			336			464			522	
Approach Delay, s/veh		21.0			20.7			20.4			20.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.4	22.8	9.6	15.5	10.9	19.3	7.7	17.4			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		6.3	33.1	4.0	31.0	7.4	32.0	4.0	31.0			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.2	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		4.3	7.6	5.1	7.2	6.9	11.7	3.5	5.9			
Green Ext Time (g_e), s		0.0	1.1	0.0	1.0	0.0	1.6	0.0	0.8			
Prob of Phs Call (p_c)		0.65	1.00	0.77	1.00	0.90	1.00	0.51	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		1870		1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1417		1429		1414		1412			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis  
5: Farmersville Rd & Walnut Ave

PM 2023  
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	69	0	96	0	152	0	46	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.3	0.0	3.1	0.0	4.9	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	3.1	0.0	4.9	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	101	0	167	0	204	0	111	0
V/C Ratio (X)	0.68	0.00	0.58	0.00	0.74	0.00	0.42	0.00
Avail Cap (c_a), veh/h	205	0	169	0	237	0	169	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.4	0.0	23.7	0.0	23.4	0.0	24.8	0.0
Incr Delay (d2), s/veh	7.8	0.0	4.6	0.0	10.2	0.0	2.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.2	0.0	28.3	0.0	33.6	0.0	27.2	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.0	0.0	1.6	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.6	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.2	0.0	2.2	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.29	0.00	0.55	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	248	0	122	0	366	0	159
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	1870	0	1870
Q Serve Time (g_s), s	0.0	5.6	0.0	3.1	0.0	9.7	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	3.1	0.0	9.7	0.0	3.9
Lane Grp Cap (c), veh/h	0	635	0	389	0	517	0	453
V/C Ratio (X)	0.00	0.39	0.00	0.31	0.00	0.71	0.00	0.35
Avail Cap (c_a), veh/h	0	1139	0	1106	0	1102	0	1106
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.9	0.0	18.6	0.0	18.0	0.0	17.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.5	0.0	1.8	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	19.0	0.0	19.8	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	1.1	0.0	3.2	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis  
5: Farmersville Rd & Walnut Ave

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	1.1	0.0	3.5	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	64	0	151	0	87	0	81
Grp Sat Flow (s), veh/h/ln	0	1417	0	1429	0	1414	0	1412
Q Serve Time (g_s), s	0.0	1.7	0.0	5.2	0.0	2.6	0.0	2.6
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	5.2	0.0	2.6	0.0	2.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	481	0	297	0	391	0	342
V/C Ratio (X)	0.00	0.13	0.00	0.51	0.00	0.22	0.00	0.24
Avail Cap (c_a), veh/h	0	863	0	845	0	833	0	834
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.6	0.0	19.4	0.0	15.4	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	0.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.8	0.0	20.8	0.0	15.7	0.0	17.2
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.4	0.0	0.7	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.5	0.0	0.7	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.69	0.00	0.17	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Intersection

Intersection Delay, s/veh  
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Vol, veh/h	106	4	5	23	7	93	5	376	41	116	441	102
Future Vol, veh/h	106	4	5	23	7	93	5	376	41	116	441	102
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	4	6	25	8	102	6	437	48	123	469	109
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	13.9	11.6	14.4	18.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	3%	0%	92%	77%	0%	34%	0%	
Vol Thru, %	97%	82%	3%	23%	0%	66%	68%	
Vol Right, %	0%	18%	4%	0%	100%	0%	32%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	193	229	115	30	93	337	323	
LT Vol	5	0	106	23	0	116	0	
Through Vol	188	188	4	7	0	221	221	
RT Vol	0	41	5	0	93	0	102	
Lane Flow Rate	224	266	129	33	102	358	343	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.408	0.473	0.281	0.075	0.202	0.64	0.575	
Departure Headway (Hd)	6.64	6.499	7.839	8.227	7.114	6.432	6.031	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	545	559	461	438	507	558	594	
Service Time	4.34	4.199	5.839	5.932	4.819	4.224	3.823	
HCM Lane V/C Ratio	0.411	0.476	0.28	0.075	0.201	0.642	0.577	
HCM Control Delay	13.8	14.9	13.9	11.6	11.6	20.1	16.8	
HCM Lane LOS	B	B	B	B	B	C	C	
HCM 95th-tile Q	2	2.5	1.1	0.2	0.7	4.5	3.6	

HCM 6th Signalized Intersection Capacity Analysis  
7: Rd 156 & Visalia Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	64	303	29	16	311	112	30	123	47	147	96	44
Future Volume (veh/h)	64	303	29	16	311	112	30	123	47	147	96	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	69	326	31	17	327	118	38	156	59	158	103	47
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	142	639	61	82	451	163	149	316	110	334	161	64
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.38	0.35	0.05	0.34	0.31	0.27	0.27	0.24	0.27	0.27	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.8	0.0	10.1	19.3	0.0	13.2	13.0	0.0	0.0	13.8	0.0	0.0
Ln Grp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		426			462			253			308	
Approach Delay, s/veh		11.6			13.4			13.0			13.8	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	8	7			
Case No			8.0	2.0	4.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			14.6	6.0	19.1		14.6	17.6	7.4			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			34.1	4.1	36.3		34.1	32.7	7.7			
Max Allow Headway (MAH), s			4.1	4.1	4.0		4.3	4.1	4.1			
Max Q Clear (g_c+1), s			6.7	2.4	7.9		8.4	10.7	3.6			
Green Ext Time (g_e), s			0.9	0.0	1.3		1.2	1.6	0.0			
Prob of Phs Call (p_c)			1.00	0.17	1.00		1.00	1.00	0.53			
Prob of Max Out (p_x)			0.00	1.00	0.00		0.00	0.00	0.97			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1		7			
Mvmt Sat Flow, veh/h			166	1641			735		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6	8				
Mvmt Sat Flow, veh/h			1185		1682		605	1312				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16	18				
Mvmt Sat Flow, veh/h			411		160		241	473				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	0	7			
Lane Assignment			L+T+RL (Prot)				L+T+R		L (Prot)			

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Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	253	17	0	0	308	0	69
Grp Sat Flow (s), veh/h/ln	0	1762	1641	0	0	1582	0	1641
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	1.7	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	4.7	0.4	0.0	0.0	6.4	0.0	1.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1257	0	0	0	1185	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1856	0	0	0	1803	0	0
Perm LT Eff Green (g_p), s	0.0	10.6	0.0	0.0	0.0	10.6	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	4.1	0.0	0.0	0.0	5.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Time to First Blk (g_f), s	0.0	3.9	0.0	0.0	0.0	0.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	3.9	0.0	0.0	0.0	0.9	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.15	1.00	0.00	0.00	0.51	0.00	1.00
Lane Grp Cap (c), veh/h	0	575	82	0	0	560	0	142
V/C Ratio (X)	0.00	0.44	0.21	0.00	0.00	0.55	0.00	0.49
Avail Cap (c_a), veh/h	0	1606	224	0	0	1422	0	373
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.5	18.1	0.0	0.0	12.9	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	0.0	0.8	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	19.3	0.0	0.0	13.8	0.0	19.8
1st-Term Q (Q1), veh/ln	0.0	1.2	0.1	0.0	0.0	1.5	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.1	0.0	0.0	1.6	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.01	0.00	0.00	0.04	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment				T+R			T+R	
Lanes in Grp	0	0	0	1	0	0	1	0
Grp Vol (v), veh/h	0	0	0	357	0	0	445	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1842	0	0	1785	0
Q Serve Time (g_s), s	0.0	0.0	0.0	5.9	0.0	0.0	8.7	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.9	0.0	0.0	8.7	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.00	0.09	0.00	0.15	0.27	0.00
Lane Grp Cap (c), veh/h	0	0	0	700	0	0	613	0
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.00	0.00	0.73	0.00
Avail Cap (c_a), veh/h	0	0	0	1748	0	0	1532	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.5	0.0	0.0	11.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	10.1	0.0	0.0	13.2	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.4	0.0	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh  
Intersection LOS -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	0	0	0
HCM LOS	-	-	-

Lane	EBLn	WBLn	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	6.9	6.9	6.9
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0



**Intersection**

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	430	15	16	332	13	11
Future Vol, veh/h	430	15	16	332	13	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	448	16	19	386	19	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	464
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1097
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1097
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14.8
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	402	-	-	1097	-
HCM Lane V/C Ratio	0.087	-	-	0.017	-
HCM Control Delay (s)	14.8	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

**Intersection**

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	47	401	0	2	318	17	0	0	0	11	0	30
Future Vol, veh/h	47	401	0	2	318	17	0	0	0	11	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage,-#	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	436	0	2	346	18	0	0	0	16	0	43

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	364	0	679
Stage 1	-	-	359
Stage 2	-	-	320
Critical Hdwy	4.14	4.14	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	2.22	3.52
Pot Cap-1 Maneuver	191	0	385
Stage 1	-	0	677
Stage 2	-	0	709
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	191	0	368
Mov Cap-2 Maneuver	-	-	368
Stage 1	-	-	648
Stage 2	-	-	708

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	1120	-	-	620
HCM Lane V/C Ratio	0.043	-	0.002	-	-	0.096
HCM Control Delay (s)	8.2	-	8.2	-	-	11.4
HCM Lane LOS	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	0	-	-	0.3

**Intersection**

Int Delay, s/veh 2.8

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	398	54	45	398	27	45
Future Vol, veh/h	398	54	45	398	27	45
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	63	63	86	86	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	632	86	52	463	56	94

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	718	0	1011	359
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	879	-	236	638
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	696	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	879	-	217	638
Mov Cap-2 Maneuver	-	-	-	-	217	-
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	640	-

**Approach** EB WB NB

HCM Control Delay, s	0	1.2	21.3
HCM LOS			C

**Minor Lane/Major MvmNBLn1** EBT EBR WBL WBT

Capacity (veh/h)	369	-	-	879	-
HCM Lane V/C Ratio	0.407	-	-	0.06	-
HCM Control Delay (s)	21.3	-	-	9.4	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.2	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	273	60	68	260	92	74	158	60	88	165	117
Future Volume (veh/h)	84	273	60	68	260	92	74	158	60	88	165	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	101	329	72	72	277	98	79	168	64	98	183	130
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	171	746	161	139	613	211	117	493	180	141	423	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.26	0.23	0.08	0.24	0.21	0.07	0.19	0.18	0.09	0.21	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.4	13.8	14.1	21.6	14.5	15.0	25.9	15.3	15.6	25.1	15.4	15.9
Ln Grp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		502			447			311			411	
Approach Delay, s/veh		15.5			15.9			18.1			17.9	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.7	12.3	7.6	14.9	7.0	12.9	8.4	14.1			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		4.4	33.7	4.0	33.1	4.0	34.1	4.0	33.1			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1			
Max Q Clear (g_c+1), s		4.5	4.6	3.8	6.1	4.0	5.6	4.5	6.1			
Green Ext Time (g_e), s		0.0	0.8	0.0	1.4	0.0	1.1	0.0	1.3			
Prob of Phs Call (p_c)		0.69	1.00	0.57	1.00	0.61	1.00	0.70	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2531		2895		2020		2576			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			924		624		1349		888			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	98	0	72	0	79	0	101	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.5	0.0	1.8	0.0	2.0	0.0	2.5	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	1.8	0.0	2.0	0.0	2.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	141	0	139	0	117	0	171	0
V/C Ratio (X)	0.69	0.00	0.52	0.00	0.68	0.00	0.59	0.00
Avail Cap (c_a), veh/h	193	0	205	0	178	0	205	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	18.9	0.0	18.6	0.0	19.2	0.0	18.1	0.0
Incr Delay (d2), s/veh	6.3	0.0	3.0	0.0	6.6	0.0	3.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.1	0.0	21.6	0.0	25.9	0.0	21.4	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.5	0.0	0.6	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	0.6	0.0	0.8	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.08	0.00	0.13	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	200	0	160	0	189
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	2.4	0.0	4.0	0.0	3.3	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	4.0	0.0	3.3	0.0	3.8
Lane Grp Cap (c), veh/h	0	346	0	458	0	372	0	423
V/C Ratio (X)	0.00	0.33	0.00	0.44	0.00	0.43	0.00	0.45
Avail Cap (c_a), veh/h	0	1436	0	1440	0	1452	0	1440
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	13.2	0.0	14.6	0.0	13.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.7	0.0	0.8	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.3	0.0	13.8	0.0	15.4	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	1.1	0.0	0.9	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	1.2	0.0	1.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	201	0	153	0	186
Grp Sat Flow (s), veh/h/ln	0	1679	0	1743	0	1592	0	1688
Q Serve Time (g_s), s	0.0	2.6	0.0	4.1	0.0	3.6	0.0	4.1
Cycle Q Clear Time (g_c), s	0.0	2.6	0.0	4.1	0.0	3.6	0.0	4.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	0.36	0.00	0.85	0.00	0.53
Lane Grp Cap (c), veh/h	0	327	0	449	0	334	0	402
V/C Ratio (X)	0.00	0.36	0.00	0.45	0.00	0.46	0.00	0.46
Avail Cap (c_a), veh/h	0	1356	0	1412	0	1301	0	1368
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	13.4	0.0	14.9	0.0	14.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.7	0.0	1.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.6	0.0	14.1	0.0	15.9	0.0	15.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	1.1	0.0	0.9	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	1.2	0.0	1.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Traffic Vol, veh/h	58	104	99	63	75	330
Future Vol, veh/h	58	104	99	63	75	330
Peak Hour Factor	0.82	0.82	0.86	0.86	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	127	115	73	82	359
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	9.7	10.5	11.5
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	61%
Vol Thru, %	0%	0%	36%	39%
Vol Right, %	0%	100%	64%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	330	162	162
LT Vol	75	0	0	99
Through Vol	0	0	58	63
RT Vol	0	330	104	0
Lane Flow Rate	82	359	198	188
Geometry Grp	7	7	2	2
Degree of Util (X)	0.135	0.475	0.265	0.279
Departure Headway (Hd)	5.98	4.771	4.831	5.327
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	596	750	737	669
Service Time	3.756	2.545	2.909	3.407
HCM Lane V/C Ratio	0.138	0.479	0.269	0.281
HCM Control Delay	9.7	11.9	9.7	10.5
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	2.6	1.1	1.1

**Intersection**

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	154	236	82	98	66	4
Future Vol, veh/h	154	236	82	98	66	4
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	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	83	83	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	159	243	99	118	80	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	402
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1157
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1157
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	15.2
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	423	758	-	-	1157	-
HCM Lane V/C Ratio	0.19	0.006	-	-	0.085	-
HCM Control Delay (s)	15.5	9.8	-	-	8.4	0
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.3	-



























Intersection			
Intersection Delay, s/veh	5.3		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	237	199	0
Demand Flow Rate, veh/h	242	203	0
Vehicles Circulating, veh/h	346	41	123
Vehicles Exiting, veh/h	223	547	121
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.3	4.1	0.0
Approach LOS	A	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	242	203	
Cap Entry Lane, veh/h	970	1323	
Entry HV Adj Factor	0.980	0.978	
Flow Entry, veh/h	237	199	
Cap Entry, veh/h	950	1295	
V/C Ratio	0.250	0.153	
Control Delay, s/veh	6.3	4.1	
LOS	A	A	
95th %tile Queue, veh	1	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS A				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	550		442	249
Demand Flow Rate, veh/h	561		451	254
Vehicles Circulating, veh/h	159		163	103
Vehicles Exiting, veh/h	198		557	511
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	5.5		7.0	4.7
Approach LOS	A		A	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.291	0.709	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	163	398	451	254
Cap Entry Lane, veh/h	1229	1229	1169	1242
Entry HV Adj Fact	0.982	0.980	0.980	0.980
Flow Entry, veh/h	160	390	442	249
Cap Entry, veh/h	1206	1204	1146	1217
V/C Ratio	0.133	0.324	0.386	0.204
Control Delay, s/veh	4.1	6.0	7.0	4.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	2	1

HCM 6th Signalized Intersection Capacity Analysis  
5: Farmersville Rd & Walnut Ave

PM 2023+Project  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	110	143	100	145	74	135	228	64	64	360	81
Future Volume (veh/h)	41	110	143	100	145	74	135	228	64	64	360	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	46	122	159	110	159	81	155	262	74	69	387	87
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	108	393	300	172	465	351	200	645	489	101	532	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.21	0.21	0.10	0.25	0.25	0.12	0.34	0.34	0.06	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.4	19.6	21.6	32.5	18.1	17.5	41.5	14.7	13.1	34.3	20.4	15.9
Ln Grp LOS	C	B	C	C	B	B	D	B	B	C	C	B
Approach Vol, veh/h		327			350			491			543	
Approach Delay, s/veh		21.8			22.5			22.9			21.5	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.5	23.8	10.0	16.0	11.0	20.3	7.8	18.3			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		6.3	32.1	4.3	31.7	6.4	32.0	4.0	32.0			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.2	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		4.4	8.1	5.7	7.7	7.3	12.7	3.5	6.0			
Green Ext Time (g_e), s		0.0	1.1	0.0	1.0	0.0	1.6	0.0	0.8			
Prob of Phs Call (p_c)		0.67	1.00	0.83	1.00	0.92	1.00	0.52	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		1870		1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1417		1429		1414		1412			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	69	0	110	0	155	0	46	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.4	0.0	3.7	0.0	5.3	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	3.7	0.0	5.3	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	101	0	172	0	200	0	108	0
V/C Ratio (X)	0.68	0.00	0.64	0.00	0.77	0.00	0.43	0.00
Avail Cap (c_a), veh/h	197	0	172	0	200	0	163	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.4	0.0	24.6	0.0	24.4	0.0	25.8	0.0
Incr Delay (d2), s/veh	7.9	0.0	7.8	0.0	17.1	0.0	2.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.3	0.0	32.5	0.0	41.5	0.0	28.4	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.2	0.0	1.7	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.4	0.0	0.9	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.6	0.0	2.7	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.38	0.00	0.67	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	262	0	122	0	387	0	159
Grp Sat Flow (s), veh/h/ln	0	1870	0	1870	0	1870	0	1870
Q Serve Time (g_s), s	0.0	6.1	0.0	3.2	0.0	10.7	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	3.2	0.0	10.7	0.0	4.0
Lane Grp Cap (c), veh/h	0	645	0	393	0	532	0	465
V/C Ratio (X)	0.00	0.41	0.00	0.31	0.00	0.73	0.00	0.34
Avail Cap (c_a), veh/h	0	1066	0	1089	0	1063	0	1099
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.3	0.0	19.1	0.0	18.5	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.4	0.0	1.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	19.6	0.0	20.4	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.1	0.0	3.6	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	1.2	0.0	3.9	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	74	0	159	0	87	0	81
Grp Sat Flow (s), veh/h/ln	0	1417	0	1429	0	1414	0	1412
Q Serve Time (g_s), s	0.0	2.1	0.0	5.7	0.0	2.7	0.0	2.6
Cycle Q Clear Time (g_c), s	0.0	2.1	0.0	5.7	0.0	2.7	0.0	2.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	489	0	300	0	402	0	351
V/C Ratio (X)	0.00	0.15	0.00	0.53	0.00	0.22	0.00	0.23
Avail Cap (c_a), veh/h	0	808	0	832	0	804	0	830
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.0	0.0	20.1	0.0	15.6	0.0	17.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.4	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	0.0	21.6	0.0	15.9	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	1.5	0.0	0.7	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	1.6	0.0	0.7	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.76	0.00	0.17	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

**Intersection**

Intersection Delay, s/veh  
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Vol, veh/h	106	4	5	26	7	93	5	399	43	116	481	102
Future Vol, veh/h	106	4	5	26	7	93	5	399	43	116	481	102
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	119	4	6	29	8	102	6	464	50	123	512	109
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	14.2	11.9	15.6	20.6
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	92%	79%	0%	33%	0%	
Vol Thru, %	98%	82%	3%	21%	0%	67%	70%	
Vol Right, %	0%	18%	4%	0%	100%	0%	30%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	205	243	115	33	93	357	343	
LT Vol	5	0	106	26	0	116	0	
Through Vol	200	200	4	7	0	241	241	
RT Vol	0	43	5	0	93	0	102	
Lane Flow Rate	238	282	129	36	102	379	364	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.445	0.517	0.287	0.085	0.206	0.686	0.621	
Departure Headway (Hd)	6.744	6.605	7.988	8.397	7.272	6.623	6.245	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	537	550	452	428	496	550	583	
Service Time	4.453	4.314	6.001	6.118	4.993	4.323	3.945	
HCM Lane V/C Ratio	0.443	0.513	0.285	0.084	0.206	0.689	0.624	
HCM Control Delay	14.8	16.2	14.2	11.9	11.9	22.6	18.6	
HCM Lane LOS	B	C	B	B	B	C	C	
HCM 95th-tile Q	2.3	2.9	1.2	0.3	0.8	5.3	4.3	

HCM 6th Signalized Intersection Capacity Analysis  
7: Rd 156 & Visalia Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	313	29	17	317	112	30	123	49	147	96	44
Future Volume (veh/h)	64	313	29	17	317	112	30	123	49	147	96	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	69	337	31	18	334	118	38	156	62	158	103	47
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	141	645	59	83	458	162	147	313	114	332	161	64
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.38	0.35	0.05	0.35	0.31	0.27	0.27	0.24	0.27	0.27	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.0	0.0	10.2	19.5	0.0	13.3	13.2	0.0	0.0	13.9	0.0	0.0
Ln Grp LOS	C	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		437			470			256			308	
Approach Delay, s/veh		11.7			13.5			13.2			13.9	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	8	7			
Case No			8.0	2.0	4.0		8.0	4.0	2.0			
Phs Duration (G+Y+Rc), s			14.7	6.0	19.3		14.7	17.9	7.4			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			33.1	4.7	36.7		33.1	33.7	7.7			
Max Allow Headway (MAH), s			4.1	4.1	4.0		4.3	4.1	4.1			
Max Q Clear (g_c+1), s			6.9	2.4	8.2		8.6	10.9	3.6			
Green Ext Time (g_e), s			0.9	0.0	1.3		1.2	1.7	0.0			
Prob of Phs Call (p_c)			1.00	0.18	1.00		1.00	1.00	0.54			
Prob of Max Out (p_x)			0.00	1.00	0.00		0.00	0.00	0.99			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1		7			
Mvmt Sat Flow, veh/h			163	1641			731		1641			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6	8				
Mvmt Sat Flow, veh/h			1171		1687		603	1320				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16	18				
Mvmt Sat Flow, veh/h			427		155		240	466				
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	0	7			
Lane Assignment			L+T+RL (Prot)				L+T+R		L (Prot)			

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Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	256	18	0	0	308	0	69
Grp Sat Flow (s), veh/h/ln	0	1761	1641	0	0	1574	0	1641
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	1.7	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	4.9	0.4	0.0	0.0	6.6	0.0	1.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1257	0	0	0	1182	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1857	0	0	0	1780	0	0
Perm LT Eff Green (g_p), s	0.0	10.7	0.0	0.0	0.0	10.7	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	4.1	0.0	0.0	0.0	5.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Time to First Blk (g_f), s	0.0	3.9	0.0	0.0	0.0	0.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	3.9	0.0	0.0	0.0	0.9	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.15	1.00	0.00	0.00	0.51	0.00	1.00
Lane Grp Cap (c), veh/h	0	574	83	0	0	557	0	141
V/C Ratio (X)	0.00	0.45	0.22	0.00	0.00	0.55	0.00	0.49
Avail Cap (c_a), veh/h	0	1548	246	0	0	1371	0	369
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.6	18.2	0.0	0.0	13.1	0.0	17.4
Incr Delay (d2), s/veh	0.0	0.5	1.3	0.0	0.0	0.9	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.2	19.5	0.0	0.0	13.9	0.0	20.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.1	0.0	0.0	1.6	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.1	0.0	0.0	1.7	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.01	0.00	0.00	0.04	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment				T+R			T+R	
Lanes in Grp	0	0	0	1	0	0	1	0
Grp Vol (v), veh/h	0	0	0	368	0	0	452	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1842	0	0	1786	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.2	0.0	0.0	8.9	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.2	0.0	0.0	8.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	0.08	0.00	0.15	0.26	0.00
Lane Grp Cap (c), veh/h	0	0	0	704	0	0	620	0
V/C Ratio (X)	0.00	0.00	0.00	0.52	0.00	0.00	0.73	0.00
Avail Cap (c_a), veh/h	0	0	0	1750	0	0	1563	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.6	0.0	0.0	11.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	10.2	0.0	0.0	13.3	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.5	0.0	0.0	2.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

**Intersection**

Intersection Delay, s/veh  
Intersection LOS A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	12	7	0	0	0
Future Vol, veh/h	0	12	7	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	8	0	0	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7	7	0
HCM LOS	A	A	-

Lane	EBLn	WBLn	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	12	7	0
LT Vol	0	0	0
Through Vol	12	7	0
RT Vol	0	0	0
Lane Flow Rate	13	8	0
Geometry Grp	1	1	1
Degree of Util (X)	0.014	0.008	0
Departure Headway (Hd)	3.94	3.944	3.971
Convergence, Y/N	Yes	Yes	Yes
Cap	914	912	0
Service Time	1.941	1.946	1.977
HCM Lane V/C Ratio	0.014	0.009	0
HCM Control Delay	7	7	7
HCM Lane LOS	A	A	N
HCM 95th-tile Q	0	0	0

**Intersection**

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	442	15	16	339	13	11
Future Vol, veh/h	442	15	16	339	13	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	460	16	19	394	19	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	476
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1086
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1086
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	15.1
HCM LOS			C

Minor Lane/Major MvmNBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	392	-	-	1086
HCM Lane V/C Ratio	0.089	-	-	0.017
HCM Control Delay (s)	15.1	-	-	8.4
HCM Lane LOS	C	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1

**Intersection**

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	47	401	12	56	318	17	7	0	31	11	0	30
Future Vol, veh/h	47	401	12	56	318	17	7	0	31	11	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	436	13	61	346	18	8	0	34	16	0	43

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	364	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	2.22
Pot Cap-1 Maneuver	191	-	1108
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	191	-	1108
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	1.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	-	1108	-	-	552
HCM Lane V/C Ratio	0.043	-	-	0.055	-	-	0.108
HCM Control Delay (s)	8.2	-	-	8.4	-	-	12.3
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-	-	0.4

**Intersection**

Int Delay, s/veh 2.9

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	429	54	45	452	27	45
Future Vol, veh/h	429	54	45	452	27	45
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	63	63	86	86	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	681	86	52	526	56	94

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	767	0	1091	384
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	842	-	209	614
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	842	-	191	614
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	613	-

**Approach** EB WB NB

HCM Control Delay, s	0	1.1	24.2
HCM LOS			C

**Minor Lane/Major MvmNBLn1** EBT EBR WBL WBT

Capacity (veh/h)	335	-	-	842	-
HCM Lane V/C Ratio	0.448	-	-	0.062	-
HCM Control Delay (s)	24.2	-	-	9.6	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.2	-	-	0.2	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	279	60	68	271	92	74	158	60	88	165	160
Future Volume (veh/h)	109	279	60	68	271	92	74	158	60	88	165	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	131	336	72	72	288	98	79	168	64	98	183	178
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	206	808	171	132	607	202	116	525	192	140	395	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.28	0.25	0.08	0.23	0.20	0.07	0.21	0.19	0.09	0.22	0.21
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.9	14.1	14.3	23.7	16.0	16.5	27.7	15.9	16.2	28.5	16.3	17.2
Ln Grp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		539			458			311			459	
Approach Delay, s/veh		16.8			17.4			19.0			19.3	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.9	13.5	7.7	16.7	7.2	14.2	9.8	14.7			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		4.4	33.7	4.0	33.1	4.0	34.1	4.7	32.4			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1			
Max Q Clear (g_c+1), s		4.7	4.7	3.9	6.4	4.2	6.7	5.5	6.5			
Green Ext Time (g_e), s		0.0	0.8	0.0	1.4	0.0	1.3	0.0	1.3			
Prob of Phs Call (p_c)		0.71	1.00	0.60	1.00	0.63	1.00	0.81	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2532		2908		1777		2604			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			925		614		1552		865			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	98	0	72	0	79	0	131	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.7	0.0	1.9	0.0	2.2	0.0	3.5	0.0
Cycle Q Clear Time (g_c), s	2.7	0.0	1.9	0.0	2.2	0.0	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	140	0	132	0	116	0	206	0
V/C Ratio (X)	0.70	0.00	0.54	0.00	0.68	0.00	0.64	0.00
Avail Cap (c_a), veh/h	179	0	189	0	164	0	215	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.4	0.0	20.3	0.0	20.8	0.0	19.1	0.0
Incr Delay (d2), s/veh	8.1	0.0	3.4	0.0	6.9	0.0	5.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.5	0.0	23.7	0.0	27.7	0.0	24.9	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	0.6	0.0	0.7	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.1	0.0	0.2	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.7	0.0	0.9	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.09	0.00	0.14	0.00	0.25	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	204	0	183	0	194
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	2.5	0.0	4.3	0.0	4.1	0.0	4.3
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	4.3	0.0	4.1	0.0	4.3
Lane Grp Cap (c), veh/h	0	368	0	494	0	395	0	414
V/C Ratio (X)	0.00	0.31	0.00	0.41	0.00	0.46	0.00	0.47
Avail Cap (c_a), veh/h	0	1328	0	1332	0	1344	0	1305
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.4	0.0	13.5	0.0	15.5	0.0	15.1
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.6	0.0	0.8	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	14.1	0.0	16.3	0.0	16.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	1.2	0.0	1.2	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	1.3	0.0	1.3	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Right Lane Group Data**

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	204	0	178	0	192
Grp Sat Flow (s), veh/h/ln	0	1680	0	1745	0	1552	0	1692
Q Serve Time (g_s), s	0.0	2.7	0.0	4.4	0.0	4.7	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	4.4	0.0	4.7	0.0	4.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	0.35	0.00	1.00	0.00	0.51
Lane Grp Cap (c), veh/h	0	348	0	485	0	345	0	395
V/C Ratio (X)	0.00	0.33	0.00	0.42	0.00	0.52	0.00	0.49
Avail Cap (c_a), veh/h	0	1255	0	1308	0	1173	0	1243
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	13.8	0.0	16.0	0.0	15.5
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.6	0.0	1.2	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	14.3	0.0	17.2	0.0	16.5
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	1.2	0.0	1.2	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	1.3	0.0	1.3	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Intersection Summary**

HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B



**Intersection**

Intersection Delay, s/veh	19.5
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	85	152	144	83	100	493
Future Vol, veh/h	85	152	144	83	100	493
Peak Hour Factor	0.82	0.82	0.86	0.86	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	185	167	97	109	536
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right NB			WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.5	14.4	24.3
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	63%
Vol Thru, %	0%	0%	36%	37%
Vol Right, %	0%	100%	64%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	493	237	227
LT Vol	100	0	0	144
Through Vol	0	0	85	83
RT Vol	0	493	152	0
Lane Flow Rate	109	536	289	264
Geometry Grp	7	7	2	2
Degree of Util (X)	0.2	0.807	0.456	0.455
Departure Headway (Hd)	6.636	5.419	5.679	6.201
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	540	664	630	578
Service Time	4.388	3.17	3.742	4.266
HCM Lane V/C Ratio	0.202	0.807	0.459	0.457
HCM Control Delay	11.1	27	13.5	14.4
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	0.7	8.3	2.4	2.4

**Intersection**

Int Delay, s/veh 4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	188	360	106	127	98	5
Future Vol, veh/h	188	360	106	127	98	5
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	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	83	83	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	371	128	153	120	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	565
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1007
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1007
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	23.1
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	309	667	-	-	1007	-
HCM Lane V/C Ratio	0.387	0.009	-	-	0.127	-
HCM Control Delay (s)	23.8	10.4	-	-	9.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.8	0	-	-	0.4	-

Intersection			
Intersection Delay, s/veh	7.6		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	298	334	0
Demand Flow Rate, veh/h	304	340	0
Vehicles Circulating, veh/h	614	51	163
Vehicles Exiting, veh/h	294	867	228
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.5	5.1	0.0
Approach LOS	B	A	-
Lane	Left	Left	
Designated Moves	LT	TR	
Assumed Moves	LT	TR	
RT Channelized			
Lane Util	1.000	1.000	
Follow-Up Headway, s	2.609	2.609	
Critical Headway, s	4.976	4.976	
Entry Flow, veh/h	304	340	
Cap Entry Lane, veh/h	738	1310	
Entry HV Adj Factor	0.980	0.982	
Flow Entry, veh/h	298	334	
Cap Entry, veh/h	723	1286	
V/C Ratio	0.412	0.260	
Control Delay, s/veh	10.5	5.1	
LOS	B	A	
95th %tile Queue, veh	2	1	

Intersection				
Intersection Delay, s/veh				
Intersection LOS B				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	815		815	348
Demand Flow Rate, veh/h	831		831	355
Vehicles Circulating, veh/h	229		201	218
Vehicles Exiting, veh/h	343		859	814
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	8.5		15.6	6.5
Approach LOS	A		C	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.242	0.758	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	201	630	831	355
Cap Entry Lane, veh/h	1153	1153	1124	1105
Entry HV Adj Factor	0.980	0.981	0.981	0.982
Flow Entry, veh/h	197	618	815	348
Cap Entry, veh/h	1130	1131	1102	1085
V/C Ratio	0.174	0.546	0.739	0.321
Control Delay, s/veh	4.7	9.7	15.6	6.5
LOS	A	A	C	A
95th %tile Queue, veh	1	3	7	1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘	↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	62	185	207	134	238	94	167	330	81	75	433	101
Future Volume (veh/h)	62	185	207	134	238	94	167	330	81	75	433	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	69	206	230	147	262	103	192	379	93	81	466	109
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	123	368	281	217	474	358	244	721	547	116	575	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.20	0.20	0.13	0.25	0.25	0.15	0.39	0.39	0.07	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.2	28.3	17.0	34.4	25.1	22.8	36.4	18.2	5.3	41.2	26.6	19.6
Ln Grp LOS	D	C	B	C	C	C	D	B	A	D	C	B
Approach Vol, veh/h		505			512			664			656	
Approach Delay, s/veh		24.4			27.3			21.6			27.2	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.2	32.7	18.6	13.8	15.1	26.8	9.6	22.9			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		15.1	39.7	31.3	13.3	16.4	38.4	11.7	32.9			
Max Allow Headway (MAH), s		4.1	4.1	4.2	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		5.6	13.6	9.4	8.3	10.4	19.1	5.0	11.0			
Green Ext Time (g_e), s		0.1	1.7	1.6	0.2	0.3	2.1	0.1	1.2			
Prob of Phs Call (p_c)		0.81	1.00	1.00	0.95	0.98	1.00	0.76	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.49	0.25	0.01	0.06	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		1641			1641	1641		1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			1870	1870			1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1419	1428			1416		1412			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

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Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	81	0	0	147	192	0	69	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	1641	0
Q Serve Time (g_s), s	3.6	0.0	0.0	6.3	8.4	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	6.3	8.4	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	116	0	0	217	244	0	123	0
V/C Ratio (X)	0.70	0.00	0.00	0.68	0.79	0.00	0.56	0.00
Avail Cap (c_a), veh/h	347	0	0	331	375	0	296	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.8	0.0	0.0	30.8	30.5	0.0	33.2	0.0
Incr Delay (d2), s/veh	7.5	0.0	0.0	3.7	5.9	0.0	4.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.2	0.0	0.0	34.4	36.4	0.0	37.2	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	2.2	2.9	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.2	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.0	2.5	3.3	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	0.00	0.60	0.85	0.00	0.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	379	206	0	0	466	0	262
Grp Sat Flow (s), veh/h/ln	0	1870	1870	0	0	1870	0	1870
Q Serve Time (g_s), s	0.0	11.6	7.4	0.0	0.0	17.1	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	11.6	7.4	0.0	0.0	17.1	0.0	9.0
Lane Grp Cap (c), veh/h	0	721	368	0	0	575	0	474
V/C Ratio (X)	0.00	0.53	0.56	0.00	0.00	0.81	0.00	0.55
Avail Cap (c_a), veh/h	0	1014	831	0	0	982	0	871
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.6	27.0	0.0	0.0	23.8	0.0	24.1
Incr Delay (d2), s/veh	0.0	0.6	1.3	0.0	0.0	2.8	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	28.3	0.0	0.0	26.6	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	4.1	2.9	0.0	0.0	6.4	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	3.0	0.0	0.0	6.8	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.02	0.00	0.00	0.04	0.00	0.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	93	230	0	0	109	0	103
Grp Sat Flow (s), veh/h/ln	0	1419	1428	0	0	1416	0	1412
Q Serve Time (g_s), s	0.0	1.9	7.1	0.0	0.0	4.3	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	1.9	7.1	0.0	0.0	4.3	0.0	4.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	547	281	0	0	435	0	358
V/C Ratio (X)	0.00	0.17	0.82	0.00	0.00	0.25	0.00	0.29
Avail Cap (c_a), veh/h	0	769	634	0	0	743	0	658
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.1	11.1	0.0	0.0	19.3	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.1	5.9	0.0	0.0	0.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.3	17.0	0.0	0.0	19.6	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	0.8	3.2	0.0	0.0	1.2	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	3.6	0.0	0.0	1.2	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.13	1.67	0.00	0.00	0.30	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

**Intersection**

Intersection Delay, s/veh  
Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕	↕				↕	
Traffic Vol, veh/h	142	5	7	35	10	127	7	603	64	167	707	147
Future Vol, veh/h	142	5	7	35	10	127	7	603	64	167	707	147
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	160	6	8	38	11	140	8	701	74	178	752	156
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	18.3	15.2	39.4	112.3
HCM LOS	C	C	E	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	92%	78%	0%	32%	0%	
Vol Thru, %	98%	82%	3%	22%	0%	68%	71%	
Vol Right, %	0%	18%	5%	0%	100%	0%	29%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	309	366	154	45	127	521	501	
LT Vol	7	0	142	35	0	167	0	
Through Vol	302	302	5	10	0	354	354	
RT Vol	0	64	7	0	127	0	147	
Lane Flow Rate	359	425	173	49	140	554	532	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.759	0.884	0.42	0.13	0.325	1.19	1.089	
Departure Headway (Hd)	7.933	7.795	8.958	9.884	8.753	7.738	7.362	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	459	468	405	365	413	476	495	
Service Time	5.633	5.495	6.958	7.584	6.453	5.438	5.062	
HCM Lane V/C Ratio	0.782	0.908	0.427	0.134	0.339	1.164	1.075	
HCM Control Delay	31.6	45.9	18.3	14.1	15.6	130.5	93.4	
HCM Lane LOS	D	E	C	B	C	F	F	
HCM 95th-tile Q	6.4	9.5	2	0.4	1.4	21	17.1	



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	397	36	24	399	139	42	172	74	183	119	55
Future Volume (veh/h)	80	397	36	24	399	139	42	172	74	183	119	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	86	427	39	25	420	146	53	218	94	197	128	59
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	702	64	70	496	172	122	395	157	295	168	69
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.42	0.40	0.04	0.37	0.35	0.36	0.36	0.34	0.36	0.36	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.9	0.0	15.6	33.0	0.0	22.6	17.6	0.0	0.0	21.3	0.0	0.0
Ln Grp LOS	C	A	B	C	A	C	B	A	A	C	A	A
Approach Vol, veh/h		552			591			365			384	
Approach Delay, s/veh		18.3			23.1			17.6			21.3	
Approach LOS		B			C			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	7	8			
Case No			8.0	2.0	4.0		8.0	2.0	4.0			
Phs Duration (G+Y+Rc), s			26.9	6.7	30.8		26.9	9.4	28.1			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			34.3	4.3	37.9		34.3	5.9	36.3			
Max Allow Headway (MAH), s			4.1	4.1	4.0		4.5	4.1	4.1			
Max Q Clear (g_c+1), s			12.9	3.0	14.8		20.6	5.3	20.7			
Green Ext Time (g_e), s			1.3	0.0	1.7		1.4	0.0	2.0			
Prob of Phs Call (p_c)			1.00	0.36	1.00		1.00	0.79	1.00			
Prob of Max Out (p_x)			0.00	1.00	0.00		0.02	1.00	0.02			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1	7				
Mvmt Sat Flow, veh/h			163	1641			593	1641				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1111		1688		472		1326			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			442		154		193		461			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	7	0			
Lane Assignment			L+T+RL (Prot)					L+T+RL (Prot)				

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Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	365	25	0	0	384	86	0
Grp Sat Flow (s), veh/h/ln	0	1716	1641	0	0	1259	1641	0
Q Serve Time (g_s), s	0.0	0.0	1.0	0.0	0.0	7.6	3.3	0.0
Cycle Q Clear Time (g_c), s	0.0	10.9	1.0	0.0	0.0	18.6	3.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1215	0	0	0	1084	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1691	0	0	0	1103	0	0
Perm LT Eff Green (g_p), s	0.0	22.9	0.0	0.0	0.0	22.9	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	4.3	0.0	0.0	0.0	12.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0
Time to First Blk (g_f), s	0.0	7.6	0.0	0.0	0.0	1.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	7.6	0.0	0.0	0.0	1.3	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.15	1.00	0.00	0.00	0.51	1.00	0.00
Lane Grp Cap (c), veh/h	0	674	70	0	0	532	139	0
V/C Ratio (X)	0.00	0.54	0.36	0.00	0.00	0.72	0.62	0.00
Avail Cap (c_a), veh/h	0	991	143	0	0	785	183	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	16.9	30.0	0.0	0.0	19.5	28.5	0.0
Incr Delay (d2), s/veh	0.0	0.7	3.1	0.0	0.0	1.9	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.6	33.0	0.0	0.0	21.3	32.9	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	0.3	0.0	0.0	4.3	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.3	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.4	0.0	0.0	4.5	1.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.03	0.00	0.00	0.11	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R				T+R
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	466	0	0	0	566
Grp Sat Flow (s), veh/h/ln	0	0	0	1843	0	0	0	1787
Q Serve Time (g_s), s	0.0	0.0	0.0	12.8	0.0	0.0	0.0	18.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.8	0.0	0.0	0.0	18.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	0.08	0.00	0.15	0.00	0.26
Lane Grp Cap (c), veh/h	0	0	0	766	0	0	0	668
V/C Ratio (X)	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.85
Avail Cap (c_a), veh/h	0	0	0	1122	0	0	0	1044
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.8	0.0	0.0	0.0	18.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	15.6	0.0	0.0	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.0	0.0	0.0	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.2	0.0	0.0	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Intersection

Intersection Delay, 1st/3rd

Intersection LOS F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	82	763	639	56	20	44
Future Vol, veh/h	82	763	639	56	20	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	829	695	61	22	48
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	58.9	67.5	11.3
HCM LOS	F	F	B

Lane	EBLn	WBLn	SBLn1
Vol Left, %	10%	0%	31%
Vol Thru, %	90%	92%	0%
Vol Right, %	0%	8%	69%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	845	695	64
LT Vol	82	0	20
Through Vol	763	639	0
RT Vol	0	56	44
Lane Flow Rate	918	755	70
Geometry Grp	1	1	1
Degree of Util (X)	1.291	1.039	0.129
Departure Headway (Hd)	5.059	5.285	7.206
Convergence, Y/N	Yes	Yes	Yes
Cap	716	695	501
Service Time	3.13	3.285	5.206
HCM Lane V/C Ratio	1.282	1.086	0.14
HCM Control Delay	158.9	67.5	11.3
HCM Lane LOS	F	F	B
HCM 95th-tile Q	35.2	18	0.4

**Intersection**

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	630	21	24	505	21	18
Future Vol, veh/h	630	21	24	505	21	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	656	22	28	587	30	26

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	678
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	914
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	914
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	24.6
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	240	-	-	914	-
HCM Lane V/C Ratio	0.236	-	-	-0.031	-
HCM Control Delay (s)	24.6	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

**Intersection**

Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	63	540	28	97	428	23	16	0	56	15	0	40
Future Vol, veh/h	63	540	28	97	428	23	16	0	56	15	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage,-#	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	587	30	105	465	25	17	0	61	22	0	58

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	490	0	1118
Stage 1	-	-	688
Stage 2	-	-	430
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1070	-	201
Stage 1	-	-	460
Stage 2	-	-	624
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1070	-	160
Mov Cap-2 Maneuver	-	-	160
Stage 1	-	-	431
Stage 2	-	-	530

Approach	EB	WB	SB
HCM Control Delay, s	0.9	1.6	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1070	-	-	959	-	-	375
HCM Lane V/C Ratio	0.064	-	-	0.11	-	-	-0.213
HCM Control Delay (s)	8.6	-	-	9.2	-	-	17.2
HCM Lane LOS	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	0.4	-	-	0.8

**Intersection**

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓			↑↓		↑
Traffic Vol, veh/h	518	69	58	556	0	97
Future Vol, veh/h	518	69	58	556	0	97
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	86	86	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	822	110	67	647	0	202

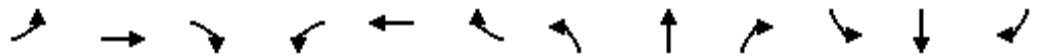
Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	932
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	730
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	730
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	15.5
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	543	-	-	730	-
HCM Lane V/C Ratio	0.372	-	-	0.092	-
HCM Control Delay (s)	15.5	-	-	10.4	0.6
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	1.7	-	-	0.3	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	159	327	75	85	334	102	89	189	72	107	201	197
Future Volume (veh/h)	159	327	75	85	334	102	89	189	72	107	201	197
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	192	394	90	90	355	109	95	201	77	119	223	219
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	279	901	203	150	630	190	135	539	199	166	412	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.31	0.29	0.09	0.24	0.21	0.08	0.21	0.20	0.10	0.23	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.3	16.1	16.4	28.8	20.4	20.9	32.0	19.8	20.1	30.6	20.4	21.6
Ln Grp LOS	C	B	B	C	C	C	C	B	C	C	C	C
Approach Vol, veh/h		676			554			373			561	
Approach Delay, s/veh		18.8			21.9			23.0			23.0	
Approach LOS		B			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	8	7			
Case No		2.0	4.0	2.0	4.0	2.0	4.0	4.0	2.0			
Phs Duration (G+Y+Rc), s		9.8	16.2	9.2	21.9	8.7	17.3	17.5	13.7			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		8.4	33.7	15.2	42.9	8.3	33.8	33.4	24.7			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.1	4.2	4.1	4.1			
Max Q Clear (g_c+1), s		6.0	6.1	5.0	8.4	5.2	9.3	8.9	8.3			
Green Ext Time (g_e), s		0.1	0.9	0.1	1.7	0.1	1.6	1.6	0.5			
Prob of Phs Call (p_c)		0.85	1.00	0.76	1.00	0.78	1.00	1.00	0.95			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3		5					7	
Mvmt Sat Flow, veh/h		1641		1641		1641					1641	
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6	8				
Mvmt Sat Flow, veh/h			2524		2868		1777	2674				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16	18				
Mvmt Sat Flow, veh/h			931		648		1552	808				
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	5	0	0	7			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)			L (Prot)			



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Lanes in Grp	1	0	1	0	1	0	0	1
Grp Vol (v), veh/h	119	0	90	0	95	0	0	192
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	0	1641
Q Serve Time (g_s), s	4.0	0.0	3.0	0.0	3.2	0.0	0.0	6.3
Cycle Q Clear Time (g_c), s	4.0	0.0	3.0	0.0	3.2	0.0	0.0	6.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	166	0	150	0	135	0	0	279
V/C Ratio (X)	0.72	0.00	0.60	0.00	0.70	0.00	0.00	0.69
Avail Cap (c_a), veh/h	258	0	474	0	256	0	0	747
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	24.9	0.0	24.9	0.0	25.5	0.0	0.0	22.3
Incr Delay (d2), s/veh	5.8	0.0	3.8	0.0	6.5	0.0	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.6	0.0	28.8	0.0	32.0	0.0	0.0	25.3
1st-Term Q (Q1), veh/ln	1.3	0.0	1.0	0.0	1.1	0.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.2	0.0	0.2	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.1	0.0	1.3	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.27	0.00	0.14	0.00	0.21	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment		T		T		T	T	
Lanes in Grp	0	1	0	1	0	1	1	0
Grp Vol (v), veh/h	0	139	0	242	0	223	234	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	1777	0
Q Serve Time (g_s), s	0.0	3.8	0.0	6.2	0.0	6.3	6.6	0.0
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	6.2	0.0	6.3	6.6	0.0
Lane Grp Cap (c), veh/h	0	379	0	558	0	412	419	0
V/C Ratio (X)	0.00	0.37	0.00	0.43	0.00	0.54	0.56	0.00
Avail Cap (c_a), veh/h	0	1067	0	1375	0	1070	1079	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	19.2	0.0	15.6	0.0	19.3	19.2	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.5	0.0	1.1	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.8	0.0	16.1	0.0	20.4	20.4	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	1.9	0.0	2.1	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.0	0.0	2.2	2.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.02	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment		T+R		T+R		T+R	T+R	
Lanes in Grp	0	1	0	1	0	1	1	0
Grp Vol (v), veh/h	0	139	0	242	0	219	230	0
Grp Sat Flow (s), veh/h/ln	0	1679	0	1739	0	1552	1705	0
Q Serve Time (g_s), s	0.0	4.1	0.0	6.4	0.0	7.3	6.9	0.0
Cycle Q Clear Time (g_c), s	0.0	4.1	0.0	6.4	0.0	7.3	6.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	0.37	0.00	1.00	0.47	0.00
Lane Grp Cap (c), veh/h	0	359	0	546	0	360	402	0
V/C Ratio (X)	0.00	0.39	0.00	0.44	0.00	0.61	0.57	0.00
Avail Cap (c_a), veh/h	0	1008	0	1346	0	935	1035	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	15.8	0.0	19.9	19.6	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.6	0.0	1.7	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.1	0.0	16.4	0.0	21.6	20.9	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	1.9	0.0	2.1	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.2	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	2.0	0.0	2.3	2.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.02	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

**Intersection**

Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	85	152	150	83	100	502
Future Vol, veh/h	85	152	150	83	100	502
Peak Hour Factor	0.82	0.82	0.86	0.86	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	185	174	97	109	546
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.6	14.8	25.9
HCM LOS	B	B	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	64%
Vol Thru, %	0%	0%	36%	36%
Vol Right, %	0%	100%	64%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	502	237	233
LT Vol	100	0	0	150
Through Vol	0	0	85	83
RT Vol	0	502	152	0
Lane Flow Rate	109	546	289	271
Geometry Grp	7	7	2	2
Degree of Util (X)	0.201	0.826	0.46	0.47
Departure Headway (Hd)	6.666	5.449	5.727	6.239
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	660	624	574
Service Time	4.419	3.202	3.794	4.306
HCM Lane V/C Ratio	0.203	0.827	0.463	0.472
HCM Control Delay	11.1	28.9	13.6	14.8
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	0.7	8.8	2.4	2.5

**Intersection**

Int Delay, s/veh 4.4

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	188	369	106	127	104	5
Future Vol, veh/h	188	369	106	127	104	5
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	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	83	83	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	194	380	128	153	127	6

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	574	0	793	384
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	409	-
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	-	-	999	-	358	664
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	999	-	308	664
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	577	-

**Approach** EB WB NB

HCM Control Delay, s	0	4.2	24
HCM LOS			C

**Minor Lane/Major Mvm** NBLn1 NBLn2 EBT EBR WBL WBT

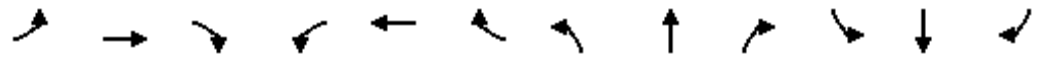
Capacity (veh/h)	308	664	-	-	999	-
HCM Lane V/C Ratio	0.412	0.009	-	-	0.128	-
HCM Control Delay (s)	24.6	10.5	-	-	9.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.9	0	-	-	0.4	-

Intersection			
Intersection Delay, s/veh	10.1		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	298	338	745
Demand Flow Rate, veh/h	304	345	760
Vehicles Circulating, veh/h	629	51	163
Vehicles Exiting, veh/h	294	882	233
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.7	5.1	12.0
Approach LOS	B	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	304	345	760
Cap Entry Lane, veh/h	726	1310	1169
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	298	338	745
Cap Entry, veh/h	712	1283	1145
V/C Ratio	0.418	0.263	0.650
Control Delay, s/veh	10.7	5.1	12.0
LOS	B	A	B
95th %tile Queue, veh	2	1	5

Intersection				
Intersection Delay, s/veh				
Intersection LOS B				
Approach	EB		NB	SB
Entry Lanes	2		1	1
Conflicting Circle Lanes	1		1	1
Adj Approach Flow, veh/h	831		829	355
Demand Flow Rate, veh/h	848		845	362
Vehicles Circulating, veh/h	237		201	221
Vehicles Exiting, veh/h	346		884	825
Ped Vol Crossing Leg, #/h	0		0	0
Ped Cap Adj	1.000		1.000	1.000
Approach Delay, s/veh	8.9		16.2	6.6
Approach LOS	A		C	A
Lane	Left Right		Left	Left
Designated Moves	L	TR	LT	TR
Assumed Moves	L	TR	LT	TR
RT Channelized				
Lane Util	0.237	0.763	1.000	1.000
Follow-Up Headway, s	3.585	2.535	2.609	2.609
Critical Headway, s	4.544	4.544	4.976	4.976
Entry Flow, veh/h	201	647	845	362
Cap Entry Lane, veh/h	1145	1145	1124	1101
Entry HV Adj Factor	0.980	0.980	0.981	0.982
Flow Entry, veh/h	197	634	829	355
Cap Entry, veh/h	1122	1122	1102	1081
V/C Ratio	0.176	0.565	0.752	0.329
Control Delay, s/veh	4.8	10.1	16.2	6.6
LOS	A	B	C	A
95th %tile Queue, veh	1	4	7	1

HCM 6th Signalized Intersection Capacity Analysis  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	62	185	214	147	238	94	170	342	89	75	453	101
Future Volume (veh/h)	62	185	214	147	238	94	170	342	89	75	453	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	206	238	162	262	103	195	393	102	81	487	109
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.87	0.87	0.87	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	128	366	304	239	482	396	252	731	602	120	592	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.20	0.20	0.13	0.26	0.26	0.14	0.39	0.39	0.07	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.3	28.8	16.1	34.4	25.1	22.6	36.8	18.4	5.2	40.9	26.8	19.2
Ln Grp LOS	D	C	B	C	C	C	D	B	A	D	C	B
Approach Vol, veh/h		513			527			690			677	
Approach Delay, s/veh		24.1			27.5			21.6			27.2	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.1	33.5	18.8	14.1	14.7	27.9	9.4	23.5			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		15.1	39.7	31.3	13.3	15.4	39.4	11.7	32.9			
Max Allow Headway (MAH), s		4.1	4.1	4.2	4.1	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		5.4	14.2	9.5	8.5	10.0	20.2	4.8	11.1			
Green Ext Time (g_e), s		0.1	1.8	1.6	0.2	0.3	2.1	0.1	1.2			
Prob of Phs Call (p_c)		0.82	1.00	1.00	0.97	0.98	1.00	0.76	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.59	0.38	0.01	0.04	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		1781			1781	1781		1781				
<b>Through Movement Data</b>												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			1870	1870			1870		1870			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1540	1551			1537		1534			
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis  
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Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	81	0	0	162	195	0	69	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	1781	0	1781	0
Q Serve Time (g_s), s	3.4	0.0	0.0	6.5	8.0	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	3.4	0.0	0.0	6.5	8.0	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	120	0	0	239	252	0	128	0
V/C Ratio (X)	0.68	0.00	0.00	0.68	0.77	0.00	0.54	0.00
Avail Cap (c_a), veh/h	371	0	0	354	378	0	316	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.4	0.0	0.0	31.1	31.2	0.0	33.8	0.0
Incr Delay (d2), s/veh	6.5	0.0	0.0	3.3	5.6	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.9	0.0	0.0	34.4	36.8	0.0	37.3	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	2.5	3.1	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.2	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.0	2.7	3.5	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	0.00	0.66	0.88	0.00	0.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	393	206	0	0	487	0	262
Grp Sat Flow (s), veh/h/ln	0	1870	1870	0	0	1870	0	1870
Q Serve Time (g_s), s	0.0	12.2	7.5	0.0	0.0	18.2	0.0	9.1
Cycle Q Clear Time (g_c), s	0.0	12.2	7.5	0.0	0.0	18.2	0.0	9.1
Lane Grp Cap (c), veh/h	0	731	366	0	0	592	0	482
V/C Ratio (X)	0.00	0.54	0.56	0.00	0.00	0.82	0.00	0.54
Avail Cap (c_a), veh/h	0	999	818	0	0	991	0	857
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.7	27.4	0.0	0.0	23.8	0.0	24.2
Incr Delay (d2), s/veh	0.0	0.6	1.4	0.0	0.0	2.9	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	28.8	0.0	0.0	26.8	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	4.4	3.0	0.0	0.0	6.8	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.5	0.0	0.1



HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	3.1	0.0	0.0	7.3	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.02	0.00	0.00	0.04	0.00	0.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	102	238	0	0	109	0	103
Grp Sat Flow (s), veh/h/ln	0	1540	1551	0	0	1537	0	1534
Q Serve Time (g_s), s	0.0	1.9	7.0	0.0	0.0	3.9	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	1.9	7.0	0.0	0.0	3.9	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	602	304	0	0	487	0	396
V/C Ratio (X)	0.00	0.17	0.78	0.00	0.00	0.22	0.00	0.26
Avail Cap (c_a), veh/h	0	823	678	0	0	815	0	703
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.0	11.7	0.0	0.0	19.0	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.1	4.5	0.0	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.2	16.1	0.0	0.0	19.2	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	0.9	3.3	0.0	0.0	1.2	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	3.7	0.0	0.0	1.2	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.15	1.72	0.00	0.00	0.30	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

**Intersection**

Intersection Delay, s/veh  
Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Vol, veh/h	142	5	7	38	10	127	7	626	66	167	747	147
Future Vol, veh/h	142	5	7	38	10	127	7	626	66	167	747	147
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	160	6	8	42	11	140	8	728	77	178	795	156
Number of Lanes	0	1	0	0	1	1	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	18.4	15.4	44.2	127.6
HCM LOS	C	C	E	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	2%	0%	92%	79%	0%	31%	0%	
Vol Thru, %	98%	83%	3%	21%	0%	69%	72%	
Vol Right, %	0%	17%	5%	0%	100%	0%	28%	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	320	379	154	48	127	541	521	
LT Vol	7	0	142	38	0	167	0	
Through Vol	313	313	5	10	0	374	374	
RT Vol	0	66	7	0	127	0	147	
Lane Flow Rate	372	441	173	53	140	575	554	
Geometry Grp	7	7	6	7	7	7	7	
Degree of Util (X)	0.79	0.92	0.422	0.14	0.328	1.232	1.131	
Departure Headway (Hd)	7.99	7.854	8.979	0.008	8.87	7.714	7.352	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Cap	458	467	403	360	408	472	493	
Service Time	5.69	5.554	6.979	7.708	6.57	5.5	5.138	
HCM Lane V/C Ratio	0.812	0.944	0.429	0.147	0.343	1.218	1.124	
HCM Control Delay	34.7	52.3	18.4	14.3	15.8	146.7	107.8	
HCM Lane LOS	D	F	C	B	C	F	F	
HCM 95th-tile Q	7.1	10.5	2	0.5	1.4	22.8	18.8	

HCM 6th Signalized Intersection Capacity Analysis  
7: Rd 156 & Visalia Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	407	36	25	405	139	42	172	76	183	119	55
Future Volume (veh/h)	80	407	36	25	405	139	42	172	76	183	119	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	438	39	26	426	146	53	218	96	197	128	59
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.79	0.79	0.79	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	145	705	63	76	503	172	121	397	162	295	169	69
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.42	0.40	0.04	0.38	0.36	0.36	0.36	0.35	0.36	0.36	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.2	0.0	16.1	33.5	0.0	22.1	17.9	0.0	0.0	21.7	0.0	0.0
Ln Grp LOS	C	A	B	C	A	C	B	A	A	C	A	A
Approach Vol, veh/h		563			598			367			384	
Approach Delay, s/veh		18.7			22.6			17.9			21.7	
Approach LOS		B			C			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	3	4		6	7	8			
Case No			8.0	2.0	4.0		8.0	2.0	4.0			
Phs Duration (G+Y+Rc), s			27.9	6.8	31.6		27.9	9.4	29.0			
Change Period (Y+Rc), s			4.9	5.3	5.3		4.9	5.3	5.3			
Max Green (Gmax), s			51.1	5.3	48.1		51.1	8.9	44.5			
Max Allow Headway (MAH), s			4.1	4.1	4.0		4.5	4.1	4.1			
Max Q Clear (g_c+1), s			13.2	2.9	15.5		21.2	5.1	21.4			
Green Ext Time (g_e), s			1.4	0.0	1.8		1.8	0.1	2.3			
Prob of Phs Call (p_c)			1.00	0.38	1.00		1.00	0.79	1.00			
Prob of Max Out (p_x)			0.00	1.00	0.00		0.00	1.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5	3			1	7				
Mvmt Sat Flow, veh/h			163	1781			590	1781				
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1103		1693		468		1332			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			448		151		192		456			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	3	0	0	1	7	0			
Lane Assignment		L+T+RL (Prot)					L+T+RL (Prot)					

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Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	367	26	0	0	384	86	0
Grp Sat Flow (s), veh/h/ln	0	1714	1781	0	0	1250	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.9	0.0	0.0	8.0	3.1	0.0
Cycle Q Clear Time (g_c), s	0.0	11.2	0.9	0.0	0.0	19.2	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1215	0	0	0	1082	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	1688	0	0	0	1083	0	0
Perm LT Eff Green (g_p), s	0.0	23.9	0.0	0.0	0.0	23.9	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	4.7	0.0	0.0	0.0	12.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0
Time to First Blk (g_f), s	0.0	7.8	0.0	0.0	0.0	1.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	7.8	0.0	0.0	0.0	1.3	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.14	1.00	0.00	0.00	0.51	1.00	0.00
Lane Grp Cap (c), veh/h	0	680	76	0	0	532	145	0
V/C Ratio (X)	0.00	0.54	0.34	0.00	0.00	0.72	0.59	0.00
Avail Cap (c_a), veh/h	0	1383	177	0	0	1093	274	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	17.2	30.8	0.0	0.0	19.9	29.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	2.7	0.0	0.0	1.9	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	33.5	0.0	0.0	21.7	33.2	0.0
1st-Term Q (Q1), veh/ln	0.0	3.6	0.4	0.0	0.0	4.4	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.3	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.4	0.0	0.0	4.7	1.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.03	0.00	0.00	0.11	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R				T+R
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	477	0	0	0	572
Grp Sat Flow (s), veh/h/ln	0	0	0	1843	0	0	0	1788
Q Serve Time (g_s), s	0.0	0.0	0.0	13.5	0.0	0.0	0.0	19.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	13.5	0.0	0.0	0.0	19.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	0.08	0.00	0.15	0.00	0.26
Lane Grp Cap (c), veh/h	0	0	0	767	0	0	0	675
V/C Ratio (X)	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.85
Avail Cap (c_a), veh/h	0	0	0	1374	0	0	0	1235
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	15.3	0.0	0.0	0.0	19.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	3.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.1	0.0	0.0	0.0	22.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	0.0	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.5	0.0	0.0	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

**Intersection**

Intersection Delay, 1st Gen  
Intersection LOS F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	82	775	646	56	20	44
Future Vol, veh/h	82	775	646	56	20	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	842	702	61	22	48
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	62.2	70.8	11.3
HCM LOS	F	F	B

Lane	EBLn	WBLn	SBLn1
Vol Left, %	10%	0%	31%
Vol Thru, %	90%	92%	0%
Vol Right, %	0%	8%	69%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	857	702	64
LT Vol	82	0	20
Through Vol	775	646	0
RT Vol	0	56	44
Lane Flow Rate	932	763	70
Geometry Grp	1	1	1
Degree of Util (X)	1.299	1.05	0.129
Departure Headway (Hd)	5.14	5.29	7.228
Convergence, Y/N	Yes	Yes	Yes
Cap	717	694	499
Service Time	3.14	3.29	5.228
HCM Lane V/C Ratio	1.3	1.099	0.14
HCM Control Delay	162.2	70.8	11.3
HCM Lane LOS	F	F	B
HCM 95th-tile Q	35.7	18.6	0.4

**Intersection**

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Vol, veh/h	642	21	24	512	21	18
Future Vol, veh/h	642	21	24	512	21	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	100	-	0	-
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	669	22	28	595	30	26

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	691
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	904
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	904
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	25.3
HCM LOS			D

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	233	-	-	904	-
HCM Lane V/C Ratio	0.243	-	-	-0.031	-
HCM Control Delay (s)	25.3	-	-	9.1	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

**Intersection**

Int Delay, s/veh 2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑					↘		
Traffic Vol, veh/h	63	540	40	151	428	23	23	0	87	15	0	40
Future Vol, veh/h	63	540	40	151	428	23	23	0	87	15	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	587	43	164	465	25	25	0	95	22	0	58

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	490	0	1236
Stage 1	-	-	806
Stage 2	-	-	430
Critical Hdwy	4.14	4.14	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	2.22	3.52
Pot Cap-1 Maneuver	1070	948	755
Stage 1	-	-	400
Stage 2	-	-	624
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1070	948	755
Mov Cap-2 Maneuver	-	-	120
Stage 1	-	-	374
Stage 2	-	-	475

Approach	EB	WB	SB
HCM Control Delay, s	8.8	2.4	20.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1070	-	-	948	-	-	309
HCM Lane V/C Ratio	0.064	-	-	0.173	-	-	0.258
HCM Control Delay (s)	8.6	-	-	9.6	-	-	20.7
HCM Lane LOS	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	0.6	-	-	1



**Intersection**

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	549	69	58	610	0	97
Future Vol, veh/h	549	69	58	610	0	97
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	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	86	86	48	48
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	871	110	67	709	0	202

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	981
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	699
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	699
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	16.2
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	523	-	-	699	-
HCM Lane V/C Ratio	0.386	-	-	0.096	-
HCM Control Delay (s)	16.2	-	-	10.7	0.7
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	1.8	-	-	0.3	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕		↵	↕		↵	↕	
Traffic Volume (veh/h)	184	333	75	85	345	102	89	189	72	107	201	240
Future Volume (veh/h)	184	333	75	85	345	102	89	189	72	107	201	240
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	222	401	90	90	367	109	95	201	77	119	223	267
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	316	930	207	153	626	183	139	600	221	169	452	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.18	0.32	0.30	0.09	0.23	0.21	0.08	0.24	0.23	0.09	0.25	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.8	17.0	17.2	30.8	22.4	22.9	33.6	20.0	20.3	33.1	20.5	23.1
Ln Grp LOS	C	B	B	C	C	C	C	B	C	C	C	C
Approach Vol, veh/h		713			566			373			609	
Approach Delay, s/veh		20.1			24.0			23.6			24.1	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	6	5	8	7			
Case No		2.0	4.0	2.0	4.0	4.0	2.0	4.0	2.0			
Phs Duration (G+Y+Rc), s		9.9	18.7	9.3	24.0	19.8	8.8	18.4	15.0			
Change Period (Y+Rc), s		4.6	4.6	5.3	5.3	4.6	4.6	5.3	5.3			
Max Green (Gmax), s		7.4	33.7	12.4	46.7	33.7	7.4	33.4	25.7			
Max Allow Headway (MAH), s		4.1	4.1	4.1	4.1	4.2	4.1	4.1	4.1			
Max Q Clear (g_c+1), s		6.0	6.3	5.0	8.9	11.6	5.2	9.7	9.3			
Green Ext Time (g_e), s		0.0	0.9	0.1	1.8	1.8	0.0	1.7	0.6			
Prob of Phs Call (p_c)		0.87	1.00	0.79	1.00	1.00	0.80	1.00	0.98			
Prob of Max Out (p_x)		1.00	0.00	0.04	0.00	0.00	1.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt		1		3			5			7		
Mvmt Sat Flow, veh/h		1781		1781			1781			1781		
<b>Through Movement Data</b>												
Assigned Mvmt			2		4	6		8				
Mvmt Sat Flow, veh/h			2525		2879	1777		2696				
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14	16		18				
Mvmt Sat Flow, veh/h			932		639	1554		789				
<b>Left Lane Group Data</b>												
Assigned Mvmt		1	0	3	0	0	5	0	7			
Lane Assignment		L (Prot)		L (Prot)			L (Prot)		L (Prot)			

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Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	119	0	90	0	0	95	0	222
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	0	1781	0	1781
Q Serve Time (g_s), s	4.0	0.0	3.0	0.0	0.0	3.2	0.0	7.3
Cycle Q Clear Time (g_c), s	4.0	0.0	3.0	0.0	0.0	3.2	0.0	7.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	169	0	153	0	0	139	0	316
V/C Ratio (X)	0.70	0.00	0.59	0.00	0.00	0.68	0.00	0.70
Avail Cap (c_a), veh/h	230	0	394	0	0	230	0	776
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	27.2	0.0	27.2	0.0	0.0	27.8	0.0	23.9
Incr Delay (d2), s/veh	5.9	0.0	3.5	0.0	0.0	5.8	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.1	0.0	30.8	0.0	0.0	33.6	0.0	26.8
1st-Term Q (Q1), veh/ln	1.5	0.0	1.1	0.0	0.0	1.2	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.2	0.0	0.0	0.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.7	0.0	1.3	0.0	0.0	1.4	0.0	2.8
%ile Storage Ratio (RQ%)	0.30	0.00	0.16	0.00	0.00	0.23	0.00	0.53
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment		T		T	T		T	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	139	0	246	223	0	240	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	4.0	0.0	6.7	6.6	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	6.7	6.6	0.0	7.4	0.0
Lane Grp Cap (c), veh/h	0	422	0	574	452	0	412	0
V/C Ratio (X)	0.00	0.33	0.00	0.43	0.49	0.00	0.58	0.00
Avail Cap (c_a), veh/h	0	984	0	1377	984	0	995	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	19.5	0.0	16.5	19.7	0.0	21.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.5	0.8	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	17.0	20.5	0.0	22.4	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	2.2	2.2	0.0	2.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0

HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	2.3	2.3	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.05	0.02	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment		T+R		T+R	T+R		T+R	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	139	0	245	267	0	236	0
Grp Sat Flow (s), veh/h/ln	0	1680	0	1741	1554	0	1708	0
Q Serve Time (g_s), s	0.0	4.3	0.0	6.9	9.6	0.0	7.7	0.0
Cycle Q Clear Time (g_c), s	0.0	4.3	0.0	6.9	9.6	0.0	7.7	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	0.37	1.00	0.00	0.46	0.00
Lane Grp Cap (c), veh/h	0	399	0	563	395	0	396	0
V/C Ratio (X)	0.00	0.35	0.00	0.44	0.68	0.00	0.60	0.00
Avail Cap (c_a), veh/h	0	930	0	1349	860	0	957	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	16.7	21.1	0.0	21.5	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.5	2.0	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.3	0.0	17.2	23.1	0.0	22.9	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	2.2	2.9	0.0	2.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	2.3	3.1	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.05	0.03	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Volume (veh/h)	142	5	7	38	10	127	7	626	66	167	747	147
Future Volume (veh/h)	142	5	7	38	10	127	7	626	66	167	747	147
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	160	6	8	42	11	140	8	728	77	178	795	156
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.86	0.86	0.86	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	234	7	9	290	70	259	39	2353	247	326	1427	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.75	0.75	0.75	0.75	0.75	0.75
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.1	0.0	0.0	42.0	0.0	47.1	5.5	0.0	5.7	12.0	0.0	8.1
Ln Grp LOS	E	A	A	D	A	D	A	A	A	B	A	A
Approach Vol, veh/h		174			193			813			1129	
Approach Delay, s/veh		58.1			45.7			5.6			9.8	
Approach LOS		E			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			8.0		8.0		8.0		7.0			
Phs Duration (G+Y+Rc), s			94.2		25.8		94.2		25.8			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			89.5		21.5		89.5		21.5			
Max Allow Headway (MAH), s			4.1		4.3		4.5		4.2			
Max Q Clear (g_c+1), s			11.2		21.3		34.6		12.5			
Green Ext Time (g_e), s			3.2		0.0		6.6		0.4			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		0.04			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			11		996		381		1332			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3147		37		1909		395			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			330		50		387		1460			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L+T		L+T+R		L+T		L+T			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	430	0	174	0	470	0	53
Grp Sat Flow (s), veh/h/ln	0	1846	0	1083	0	1044	0	1726
Q Serve Time (g_s), s	0.0	0.0	0.0	16.2	0.0	23.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	19.3	0.0	32.6	0.0	3.0
Perm LT Sat Flow (s_l), veh/h/ln	0	599	0	1256	0	687	0	1422
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	1749
Perm LT Eff Green (g_p), s	0.0	89.7	0.0	21.3	0.0	89.7	0.0	21.3
Perm LT Serve Time (g_u), s	0.0	69.2	0.0	18.3	0.0	80.5	0.0	2.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	16.2	0.0	23.4	0.0	0.0
Time to First Blk (g_f), s	0.0	60.1	0.0	0.0	0.0	1.8	0.0	0.5
Serve Time pre Blk (g_fs), s	0.0	9.1	0.0	0.0	0.0	1.8	0.0	0.5
Prop LT Inside Lane (P_L)	0.00	0.02	0.00	0.92	0.00	0.38	0.00	0.79
Lane Grp Cap (c), veh/h	0	1411	0	250	0	821	0	360
V/C Ratio (X)	0.00	0.30	0.00	0.70	0.00	0.57	0.00	0.15
Avail Cap (c_a), veh/h	0	1411	0	252	0	821	0	363
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.0	0.0	50.0	0.0	9.2	0.0	41.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	8.0	0.0	2.9	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.5	0.0	58.1	0.0	12.0	0.0	42.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	4.9	0.0	5.0	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.6	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	5.4	0.0	5.6	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.12	0.00	0.04	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R				T+R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	383	0	0	0	659	0	140
Grp Sat Flow (s), veh/h/ln	0	1643	0	0	0	1632	0	1460
Q Serve Time (g_s), s	0.0	9.2	0.0	0.0	0.0	20.5	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	0.0	0.0	20.5	0.0	10.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.20	0.00	0.05	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	1228	0	0	0	1220	0	259
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.54	0.00	0.54
Avail Cap (c_a), veh/h	0	1228	0	0	0	1220	0	262
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.0	0.0	0.0	0.0	6.4	0.0	44.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.7	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.7	0.0	0.0	0.0	8.1	0.0	47.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	4.9	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	5.5	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.04	0.00	1.92
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↕	↕		↕				
Traffic Volume (veh/h)	82	775	646	56	20	44			
Future Volume (veh/h)	82	775	646	56	20	44			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	89	842	702	61	22	48			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	110	896	998	87	172	375			
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00			
Prop Arrive On Green	0.59	0.59	1.00	1.00	0.34	0.34			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	32.2	0.0	0.0	0.9	28.0	0.0			
Ln Grp LOS	C	A	A	A	C	A			
Approach Vol, veh/h		931	763		71				
Approach Delay, s/veh		32.2	0.9		28.0				
Approach LOS		C	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4				8
Case No		12.0			8.0				8.0
Phs Duration (G+Y+Rc), s		44.9			75.1				75.1
Change Period (Y+Rc), s		4.5			4.5				4.5
Max Green (Gmax), s		18.5			92.5				92.5
Max Allow Headway (MAH), s		4.3			4.2				4.0
Max Q Clear (g_c+1), s		5.6			65.3				2.0
Green Ext Time (g_e), s		0.1			5.3				3.5
Prob of Phs Call (p_c)		1.00			1.00				1.00
Prob of Max Out (p_x)		0.00			0.02				0.00
<b>Left-Turn Movement Data</b>									
Assigned Mvmt		1			7				3
Mvmt Sat Flow, veh/h		510			131				0
<b>Through Movement Data</b>									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		23			1523				1696
<b>Right-Turn Movement Data</b>									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1112			0				147
<b>Left Lane Group Data</b>									
Assigned Mvmt		1	0	0	7	0	0	0	3
Lane Assignment		L+T+R			L+T				



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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	71	0	0	931	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1645	0	0	1654	0	0	0	0
Q Serve Time (g_s), s	3.6	0.0	0.0	52.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	63.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	715	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	70.6	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	70.6	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	52.4	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	10.8	0.0	0.0	0.0	70.6
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.31	0.00	0.00	0.10	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	554	0	0	1005	0	0	0	0
V/C Ratio (X)	0.13	0.00	0.00	0.93	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	554	0	0	1300	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	27.6	0.0	0.0	22.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	9.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.0	0.0	0.0	32.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	20.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	2.7	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.4	0.0	0.0	23.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.71	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment								T+R
Lanes in Grp	0	0	0	0	0	0	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	763
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	1844
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	1084
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	1421
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↔		↔	↔	↔	↔			
Traffic Volume (veh/h)	642	21	24	512	21	18			
Future Volume (veh/h)	642	21	24	512	21	18			
Number	4	14	3	8	5	12			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1723	1723	1870	1723	1723			
Adj Flow Rate, veh/h	669	22	28	595	30	26			
Peak Hour Factor	0.96	0.96	0.86	0.86	0.69	0.69			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence			Yes		Yes				
Cap, veh/h	724	24	136	752	428	371			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.80	0.80	0.40	0.40	0.52	0.52			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	0.0	13.6	50.3	33.4	14.3	0.0			
Ln Grp LOS	A	B	D	C	B	A			
Approach Vol, veh/h	691			623	57				
Approach Delay, s/veh	13.6			34.2	14.3				
Approach LOS	B			C	B				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4				8
Case No			12.0		8.0				6.0
Phs Duration (G+Y+Rc), s			69.3		50.7				50.7
Change Period (Y+Rc), s			4.5		4.5				4.5
Max Green (Gmax), s			21.5		89.5				89.5
Max Allow Headway (MAH), s			4.2		4.0				4.1
Max Q Clear (g_c+1), s			4.2		36.0				41.6
Green Ext Time (g_e), s			0.1		3.0				2.7
Prob of Phs Call (p_c)			1.00		1.00				1.00
Prob of Max Out (p_x)			0.00		0.00				0.00
<b>Left-Turn Movement Data</b>									
Assigned Mvmt			5		7				3
Mvmt Sat Flow, veh/h			818		0				693
<b>Through Movement Data</b>									
Assigned Mvmt			2		4				8
Mvmt Sat Flow, veh/h			27		1800				1870
<b>Right-Turn Movement Data</b>									
Assigned Mvmt			12		14				18
Mvmt Sat Flow, veh/h			709		59				0
<b>Left Lane Group Data</b>									
Assigned Mvmt		0	5	0	7	0	0	0	3
Lane Assignment		L+T+R							L

HCM 6th Signalized Intersection Capacity Analysis  
 9: Virginia Ave & Visalia Rd

PM 2043+Project with Mitigation  
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Lanes in Grp	0	1	0	0	0	0	0	1
Grp Vol (v), veh/h	0	57	0	0	0	0	0	28
Grp Sat Flow (s), veh/h/ln	0	1554	0	0	0	0	0	693
Q Serve Time (g_s), s	0.0	2.2	0.0	0.0	0.0	0.0	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	2.2	0.0	0.0	0.0	0.0	0.0	39.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	693
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
Time to First Blk (g_f), s	0.0	0.0	0.0	48.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.53	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	813	0	0	0	0	0	136
V/C Ratio (X)	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.21
Avail Cap (c_a), veh/h	0	813	0	0	0	0	0	374
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.2	0.0	0.0	0.0	0.0	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	0.0	0.0	0.0	0.0	50.3
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Middle Lane Group Data**

Assigned Mvmt	0	2	0	4	0	0	0	8
Lane Assignment								T
Lanes in Grp	0	0	0	0	0	0	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	595
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	1870
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.5
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	752
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	1395
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis  
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	0	0	18
Lane Assignment	T+R							
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	691	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1860	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.46	0.00	0.03	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	747	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	1387	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C



**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

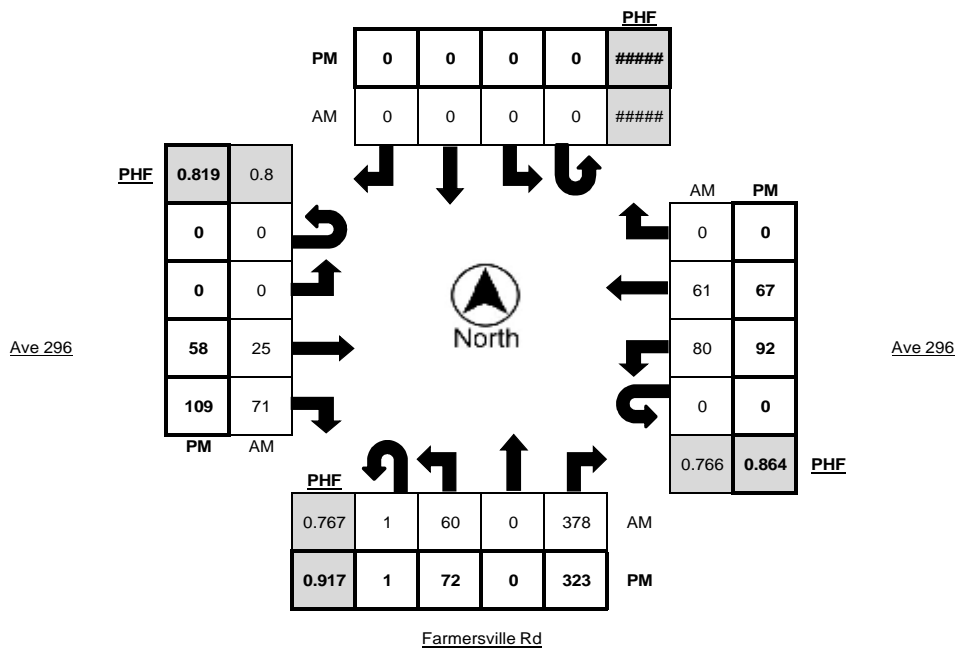
LOCATION Farmersville Rd @ Ave 296 LATITUDE 36.3281  
 COUNTY Tulare LONGITUDE -119.2092  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	9	0	42	1	0	0	0	0	0	0	0	7	16	1	0	6	11	0	0
6:15 AM - 6:30 AM	0	18	0	79	3	0	0	0	0	0	0	0	8	21	4	0	7	6	0	0
6:30 AM - 6:45 AM	0	5	0	101	3	0	0	0	0	0	0	0	8	20	2	0	23	9	0	1
6:45 AM - 7:00 AM	0	19	0	72	7	0	0	0	0	0	0	0	10	17	1	0	19	5	0	0
7:00 AM - 7:15 AM	0	7	0	61	0	0	0	0	0	0	0	0	4	19	4	0	20	10	0	5
7:15 AM - 7:30 AM	0	11	0	97	3	0	0	0	0	0	0	0	7	23	1	0	19	15	0	5
7:30 AM - 7:45 AM	0	22	0	98	4	0	0	0	0	0	0	0	8	19	0	0	17	14	0	2
7:45 AM - 8:00 AM	1	20	0	122	3	0	0	0	0	0	0	0	6	10	1	0	24	22	0	3
<b>TOTAL</b>	<b>1</b>	<b>111</b>	<b>0</b>	<b>672</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>58</b>	<b>145</b>	<b>14</b>	<b>0</b>	<b>135</b>	<b>92</b>	<b>0</b>	<b>16</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	25	0	83	4	0	0	0	0	0	0	0	13	31	0	0	19	15	0	1
4:15 PM - 4:30 PM	0	18	0	79	3	0	0	0	0	0	0	0	16	16	2	0	28	18	0	1
4:30 PM - 4:45 PM	1	15	0	80	3	0	0	0	0	0	0	0	18	33	1	0	26	10	0	2
4:45 PM - 5:00 PM	0	16	0	79	2	0	0	0	0	0	0	0	11	24	1	0	20	20	0	1
5:00 PM - 5:15 PM	0	23	0	85	6	0	0	0	0	0	0	0	13	36	1	0	18	19	0	0
5:15 PM - 5:30 PM	0	25	0	73	2	0	0	0	0	0	0	0	17	21	0	0	17	12	0	0
5:30 PM - 5:45 PM	0	24	0	80	2	0	0	0	0	0	0	0	11	8	0	0	14	15	0	1
5:45 PM - 6:00 PM	0	14	0	62	0	0	0	0	0	0	0	0	12	27	1	0	19	5	0	0
<b>TOTAL</b>	<b>1</b>	<b>160</b>	<b>0</b>	<b>621</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>111</b>	<b>196</b>	<b>6</b>	<b>0</b>	<b>161</b>	<b>114</b>	<b>0</b>	<b>6</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	1	60	0	378	10	0	0	0	0	0	0	0	25	71	6	0	80	61	0	15
4:15 PM - 5:15 PM	1	72	0	323	14	0	0	0	0	0	0	0	58	109	5	0	92	67	0	4

	PHF	Trucks
AM	0.824	4.6%
PM	0.930	3.2%





**Metro Traffic Data Inc.**  
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# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

LOCATION SR 198 WB Ramps @ Ave 296  
 COUNTY Tulare  
 COLLECTION DATE Tuesday, March 29, 2022

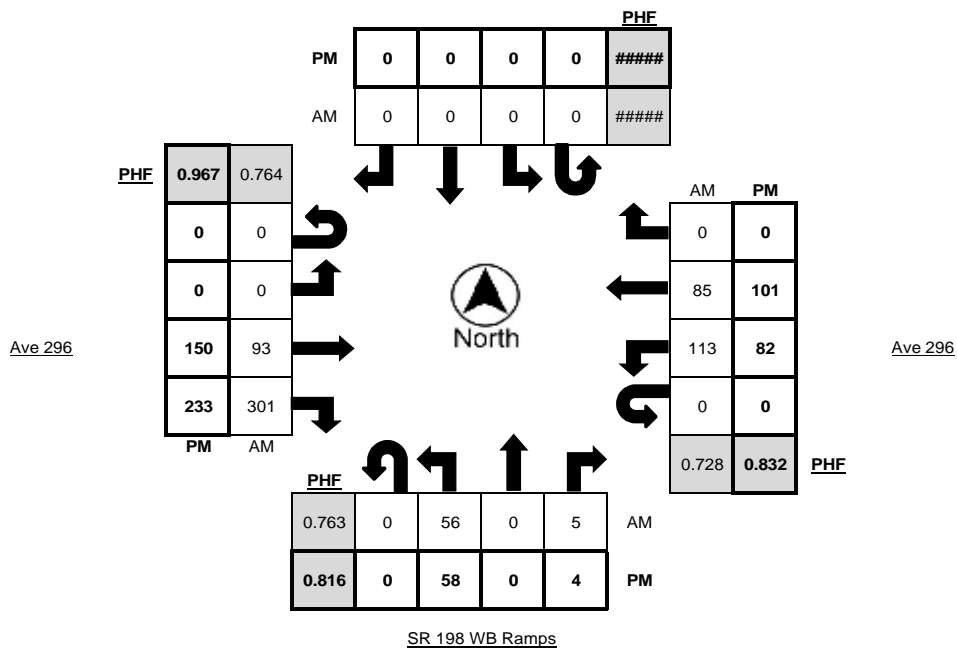
LATITUDE 36.3280  
 LONGITUDE -119.2082  
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	27	23	1	0	10	9	0	0
6:15 AM - 6:30 AM	0	7	0	0	0	0	0	0	0	0	0	0	45	40	3	0	8	8	0	0
6:30 AM - 6:45 AM	0	14	0	1	0	0	0	0	0	0	0	0	61	49	2	0	14	17	0	0
6:45 AM - 7:00 AM	0	7	0	3	0	0	0	0	0	0	0	0	41	41	3	0	19	19	0	0
7:00 AM - 7:15 AM	0	20	0	0	0	0	0	0	0	0	0	0	18	45	1	0	20	9	0	1
7:15 AM - 7:30 AM	0	14	0	0	0	0	0	0	0	0	0	0	25	75	1	0	30	20	0	3
7:30 AM - 7:45 AM	0	10	0	2	0	0	0	0	0	0	0	0	24	78	2	0	31	20	0	1
7:45 AM - 8:00 AM	0	12	0	3	0	0	0	0	0	0	0	0	26	103	3	0	32	36	0	1
<b>TOTAL</b>	<b>0</b>	<b>89</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>267</b>	<b>454</b>	<b>16</b>	<b>0</b>	<b>164</b>	<b>138</b>	<b>0</b>	<b>6</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	10	0	0	0	0	0	0	0	0	0	0	44	53	4	0	17	27	0	4
4:15 PM - 4:30 PM	0	18	0	1	0	0	0	0	0	0	0	0	39	58	3	0	28	27	0	2
4:30 PM - 4:45 PM	0	18	0	1	0	0	0	0	0	0	0	0	36	60	3	0	12	17	0	0
4:45 PM - 5:00 PM	0	14	0	2	0	0	0	0	0	0	0	0	35	56	4	0	25	27	0	3
5:00 PM - 5:15 PM	0	8	0	0	0	0	0	0	0	0	0	0	40	59	7	0	17	30	0	2
5:15 PM - 5:30 PM	0	11	0	0	0	0	0	0	0	0	0	0	42	46	2	0	20	17	0	1
5:30 PM - 5:45 PM	0	9	0	0	0	0	0	0	0	0	0	0	36	54	2	0	19	19	0	1
5:45 PM - 6:00 PM	0	5	0	1	0	0	0	0	0	0	0	0	37	39	0	0	8	19	0	1
<b>TOTAL</b>	<b>0</b>	<b>93</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>309</b>	<b>425</b>	<b>25</b>	<b>0</b>	<b>146</b>	<b>183</b>	<b>0</b>	<b>14</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	56	0	5	0	0	0	0	0	0	0	0	93	301	7	0	113	85	0	6
4:15 PM - 5:15 PM	0	58	0	4	0	0	0	0	0	0	0	0	150	233	17	0	82	101	0	7

	PHF	Trucks
AM	0.770	2.0%
PM	0.918	3.8%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

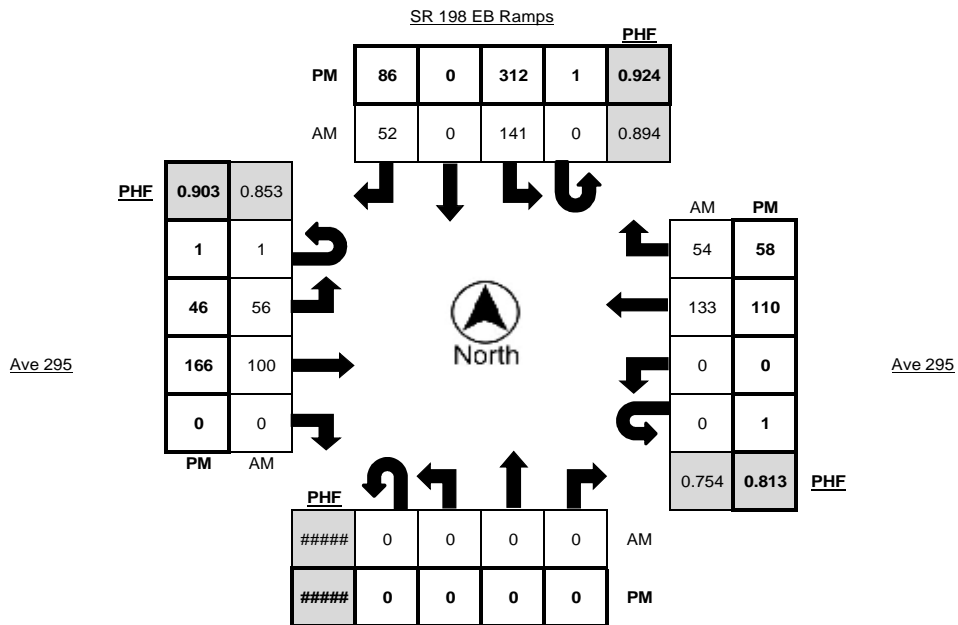
LOCATION SR 198 EB Ramps @ Ave 295 LATITUDE 36.3254  
 COUNTY Tulare LONGITUDE -119.2088  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound					
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	
6:00 AM - 6:15 AM	0	0	0	0	0	0	16	0	6	1	0	3	7	0	0	0	0	0	11	11	1
6:15 AM - 6:30 AM	0	0	0	0	0	0	25	0	7	0	1	6	10	0	0	0	0	13	22	2	
6:30 AM - 6:45 AM	0	0	0	0	0	0	29	0	7	3	0	6	14	0	0	0	0	19	23	4	
6:45 AM - 7:00 AM	0	0	0	0	0	0	26	0	10	4	0	7	21	0	0	0	0	28	17	2	
7:00 AM - 7:15 AM	0	0	0	0	0	0	33	0	11	1	0	15	19	0	2	0	0	33	13	0	
7:15 AM - 7:30 AM	0	0	0	0	0	0	36	0	14	1	1	12	24	0	0	0	0	25	7	2	
7:30 AM - 7:45 AM	0	0	0	0	0	0	43	0	11	1	0	15	25	0	1	0	0	37	25	4	
7:45 AM - 8:00 AM	0	0	0	0	0	0	29	0	16	1	0	14	32	0	1	0	0	38	9	4	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>237</b>	<b>0</b>	<b>82</b>	<b>12</b>	<b>2</b>	<b>78</b>	<b>152</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>204</b>	<b>127</b>	<b>19</b>	

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	0	0	0	0	72	0	23	1	0	12	51	0	1	1	0	25	18	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	61	0	25	1	0	9	40	0	0	1	0	19	12	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	79	0	20	1	0	6	40	0	1	0	0	35	17	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	86	0	22	1	0	9	46	0	0	1	0	19	13	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	70	0	17	0	1	16	36	0	0	0	0	33	16	1
5:15 PM - 5:30 PM	0	0	0	0	0	1	77	0	27	1	0	15	44	0	0	0	0	23	12	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	62	0	22	2	0	9	37	0	0	0	0	19	12	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	66	0	24	0	0	9	35	0	0	1	0	23	16	1
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>573</b>	<b>0</b>	<b>180</b>	<b>7</b>	<b>1</b>	<b>85</b>	<b>329</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>196</b>	<b>116</b>	<b>3</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	0	0	0	0	0	141	0	52	4	1	56	100	0	4	0	0	133	54	10
4:30 PM - 5:30 PM	0	0	0	0	0	1	312	0	86	3	1	46	166	0	1	1	0	110	58	2

	PHF	Trucks
AM	0.861	3.4%
PM	0.981	0.8%







**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

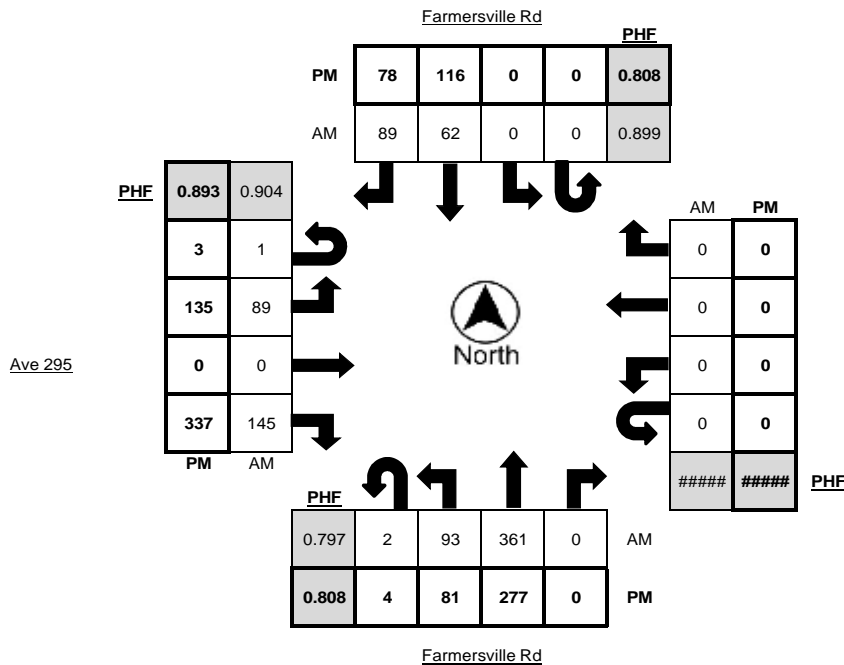
LOCATION Farmersville Rd @ Ave 295 LATITUDE 36.3256  
 COUNTY Tulare LONGITUDE -119.2079  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	8	48	0	2	0	0	9	14	2	0	4	0	18	1	0	0	0	0	0
6:15 AM - 6:30 AM	0	14	79	0	5	0	0	12	17	4	1	14	0	19	0	0	0	0	0	0
6:30 AM - 6:45 AM	1	18	98	0	4	0	0	19	21	5	0	18	0	26	3	0	0	0	0	0
6:45 AM - 7:00 AM	0	19	59	0	7	0	0	11	22	1	1	24	0	22	2	0	0	0	0	0
7:00 AM - 7:15 AM	2	20	61	0	0	0	0	15	25	5	0	16	0	33	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	12	79	0	3	0	0	22	20	5	0	21	0	41	1	0	0	0	0	0
7:30 AM - 7:45 AM	0	35	108	0	8	0	0	9	26	1	1	22	0	42	1	0	0	0	0	0
7:45 AM - 8:00 AM	0	26	113	0	7	0	0	16	18	2	0	30	0	29	2	0	0	0	0	0
<b>TOTAL</b>	<b>3</b>	<b>152</b>	<b>645</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>113</b>	<b>163</b>	<b>25</b>	<b>3</b>	<b>149</b>	<b>0</b>	<b>230</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	1	27	70	0	3	1	0	35	14	0	4	37	0	83	2	0	0	0	0	0
4:15 PM - 4:30 PM	0	12	65	0	1	0	0	28	17	2	0	31	0	70	1	0	0	0	0	0
4:30 PM - 4:45 PM	0	25	65	0	3	0	0	33	27	2	1	33	0	83	3	0	0	0	0	0
4:45 PM - 5:00 PM	2	12	67	0	1	0	0	24	17	1	1	35	0	97	1	0	0	0	0	0
5:00 PM - 5:15 PM	2	27	83	0	7	0	0	37	18	1	1	30	0	71	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	17	62	0	2	0	0	22	16	0	0	37	0	86	1	0	0	0	0	0
5:30 PM - 5:45 PM	0	20	70	0	0	0	0	13	9	0	0	32	0	69	3	0	0	0	0	0
5:45 PM - 6:00 PM	1	22	56	0	0	0	0	30	19	1	0	26	0	76	0	0	0	0	0	0
<b>TOTAL</b>	<b>6</b>	<b>162</b>	<b>538</b>	<b>0</b>	<b>17</b>	<b>1</b>	<b>0</b>	<b>222</b>	<b>137</b>	<b>7</b>	<b>7</b>	<b>261</b>	<b>0</b>	<b>635</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	2	93	361	0	18	0	0	62	89	13	1	89	0	145	5	0	0	0	0	0
4:30 PM - 5:30 PM	4	81	277	0	13	0	0	116	78	4	3	135	0	337	5	0	0	0	0	0

	PHF	Trucks
AM	0.866	4.3%
PM	0.958	2.1%





**Metro Traffic Data Inc.**  
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 Hanford, CA 93230  
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 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruetggers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

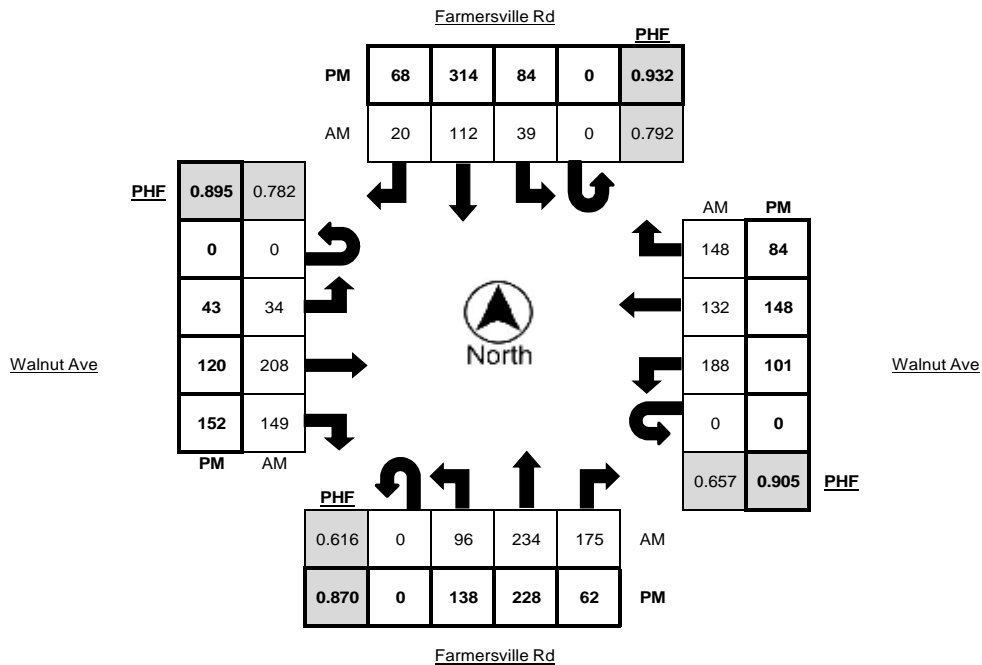
**LOCATION** Farmersville Rd @ Walnut Ave **LATITUDE** 36.3123  
**COUNTY** Tulare **LONGITUDE** -119.2070  
**COLLECTION DATE** Tuesday, March 29, 2022 **WEATHER** Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	12	42	2	0	0	3	10	2	3	0	10	11	10	0	0	1	10	8	0
6:15 AM - 6:30 AM	0	10	74	5	4	0	4	18	7	1	0	12	14	12	1	0	2	6	14	1
6:30 AM - 6:45 AM	0	12	71	6	2	0	4	30	5	3	0	24	28	21	3	0	3	3	22	0
6:45 AM - 7:00 AM	0	15	60	10	4	0	4	18	3	2	0	5	27	22	3	0	10	9	15	3
7:00 AM - 7:15 AM	0	16	40	10	2	0	3	25	2	3	0	6	28	20	1	0	8	15	23	5
7:15 AM - 7:30 AM	0	21	52	18	3	0	10	27	4	4	0	4	47	41	1	0	30	26	31	4
7:30 AM - 7:45 AM	0	20	76	47	2	0	11	30	5	2	0	9	70	41	3	0	62	43	52	3
7:45 AM - 8:00 AM	0	39	66	100	0	0	15	30	9	2	0	15	63	47	3	0	88	48	42	2
<b>TOTAL</b>	<b>0</b>	<b>145</b>	<b>481</b>	<b>198</b>	<b>17</b>	<b>0</b>	<b>54</b>	<b>188</b>	<b>37</b>	<b>20</b>	<b>0</b>	<b>85</b>	<b>288</b>	<b>214</b>	<b>15</b>	<b>0</b>	<b>204</b>	<b>160</b>	<b>207</b>	<b>18</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	35	62	13	1	0	17	100	26	1	0	16	20	29	1	0	21	38	21	2
4:15 PM - 4:30 PM	0	26	54	13	1	0	13	82	20	2	0	7	28	27	0	0	15	31	14	2
4:30 PM - 4:45 PM	0	33	52	12	3	0	13	79	17	0	0	9	31	38	0	0	23	45	20	2
4:45 PM - 5:00 PM	0	38	48	18	0	0	21	79	18	1	0	9	31	42	1	0	28	31	19	2
5:00 PM - 5:15 PM	0	35	69	19	0	0	29	78	18	0	0	13	29	25	1	0	24	44	24	3
5:15 PM - 5:30 PM	0	32	59	13	2	0	21	78	15	0	0	12	29	47	0	0	26	28	21	1
5:30 PM - 5:45 PM	0	34	60	19	0	1	8	60	11	1	0	7	37	38	1	0	23	37	15	0
5:45 PM - 6:00 PM	0	35	57	19	0	0	16	78	13	0	0	5	25	37	0	0	18	30	21	1
<b>TOTAL</b>	<b>0</b>	<b>268</b>	<b>461</b>	<b>126</b>	<b>7</b>	<b>1</b>	<b>138</b>	<b>634</b>	<b>138</b>	<b>5</b>	<b>0</b>	<b>78</b>	<b>230</b>	<b>283</b>	<b>4</b>	<b>0</b>	<b>178</b>	<b>284</b>	<b>155</b>	<b>13</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	96	234	175	7	0	39	112	20	11	0	34	208	149	8	0	188	132	148	14
4:30 PM - 5:30 PM	0	138	228	62	5	0	84	314	68	1	0	43	120	152	2	0	101	148	84	8

	PHF	Trucks
AM	0.683	2.6%
PM	0.947	1.0%





**Metro Traffic Data Inc.**  
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 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

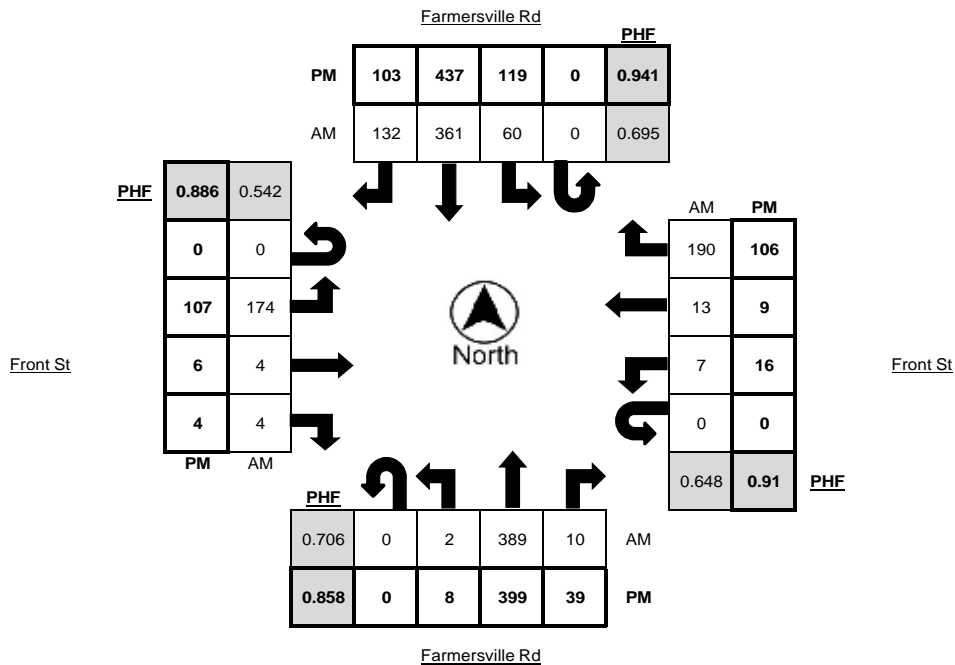
LOCATION Farmersville Rd @ Front St LATITUDE 36.3047  
 COUNTY Tulare LONGITUDE -119.2071  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	0	37	2	0	0	2	34	5	1	0	11	0	1	1	0	2	3	14	0
6:15 AM - 6:30 AM	0	0	46	0	1	0	5	34	5	0	0	15	0	1	0	0	4	0	21	0
6:30 AM - 6:45 AM	0	1	50	0	2	0	6	51	6	2	0	17	0	0	0	0	2	0	22	0
6:45 AM - 7:00 AM	0	0	52	1	3	0	5	46	5	0	0	9	0	1	0	0	0	1	30	1
7:00 AM - 7:15 AM	0	0	44	4	1	0	6	38	11	1	0	13	0	0	0	0	1	0	24	1
7:15 AM - 7:30 AM	0	1	78	1	3	0	15	78	22	7	0	23	1	1	0	0	2	2	30	0
7:30 AM - 7:45 AM	0	1	128	2	1	0	17	119	48	2	0	57	1	2	1	0	1	4	65	0
7:45 AM - 8:00 AM	0	0	139	3	1	0	22	126	51	1	0	81	2	1	0	0	3	7	71	0
<b>TOTAL</b>	<b>0</b>	<b>3</b>	<b>574</b>	<b>13</b>	<b>12</b>	<b>0</b>	<b>78</b>	<b>526</b>	<b>153</b>	<b>14</b>	<b>0</b>	<b>226</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>17</b>	<b>277</b>	<b>2</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	1	109	12	4	0	31	111	30	1	0	34	1	1	0	0	4	0	24	0
4:15 PM - 4:30 PM	0	0	87	7	0	0	27	105	20	1	0	22	1	1	0	0	10	2	19	0
4:30 PM - 4:45 PM	0	1	94	14	2	0	29	108	23	2	0	22	2	2	1	0	5	0	25	0
4:45 PM - 5:00 PM	0	3	86	8	0	0	29	117	29	1	0	28	0	1	0	0	4	5	25	0
5:00 PM - 5:15 PM	0	3	114	13	1	0	32	109	24	1	0	29	3	1	0	0	6	1	29	0
5:15 PM - 5:30 PM	0	1	105	4	2	0	29	103	27	0	0	28	1	0	0	0	1	3	27	0
5:30 PM - 5:45 PM	0	2	91	9	1	0	23	93	20	1	0	29	3	0	0	0	2	2	20	0
5:45 PM - 6:00 PM	0	0	96	4	0	0	17	102	22	1	0	18	3	0	0	0	6	0	27	0
<b>TOTAL</b>	<b>0</b>	<b>11</b>	<b>782</b>	<b>71</b>	<b>10</b>	<b>0</b>	<b>217</b>	<b>848</b>	<b>195</b>	<b>8</b>	<b>0</b>	<b>210</b>	<b>14</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>38</b>	<b>13</b>	<b>196</b>	<b>0</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	2	389	10	6	0	60	361	132	11	0	174	4	4	1	0	7	13	190	1
4:30 PM - 5:30 PM	0	8	399	39	5	0	119	437	103	4	0	107	6	4	1	0	16	9	106	0

	PHF	Trucks
AM	0.665	1.4%
PM	0.929	0.7%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

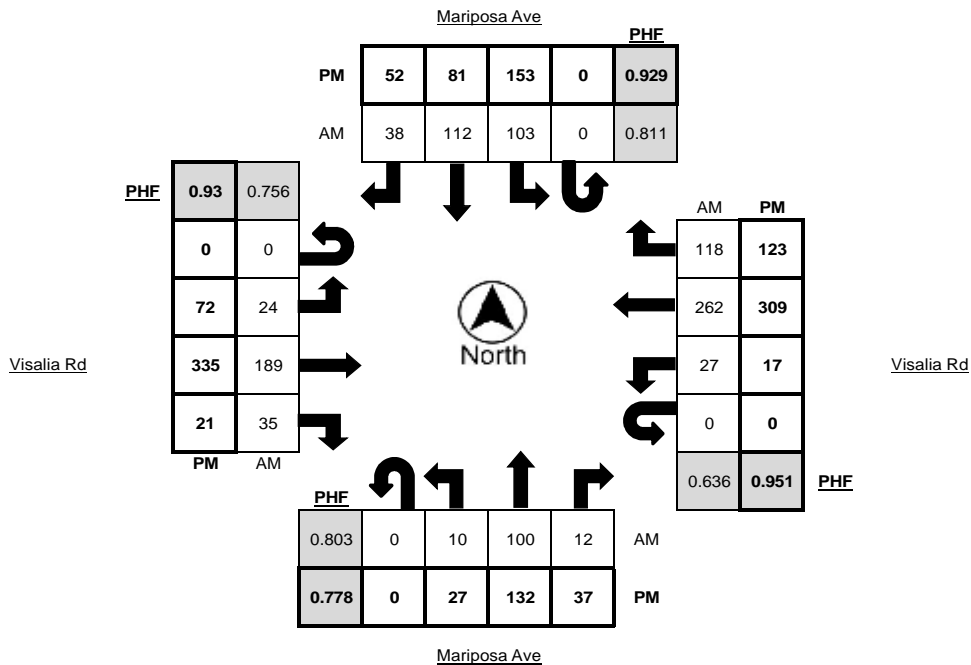
**LOCATION** Visalia Rd @ Rd 156 (Mariposa) **LATITUDE** 36.2979  
**COUNTY** Tulare **LONGITUDE** -119.2249  
**COLLECTION DATE** Tuesday, March 29, 2022 **WEATHER** Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	3	11	1	1	0	11	17	2	0	0	5	13	6	1	0	4	23	24	0
6:15 AM - 6:30 AM	0	3	9	0	0	0	10	21	6	1	0	7	22	2	2	0	6	28	14	1
6:30 AM - 6:45 AM	0	0	18	4	0	0	17	36	8	0	0	5	17	8	2	0	7	46	27	1
6:45 AM - 7:00 AM	0	5	18	2	0	0	12	22	10	4	0	7	36	11	5	0	11	42	26	0
7:00 AM - 7:15 AM	0	3	18	1	1	0	15	24	9	1	0	2	30	6	3	0	5	34	17	1
7:15 AM - 7:30 AM	0	1	18	5	0	0	18	26	6	4	0	4	47	10	5	0	4	56	18	1
7:30 AM - 7:45 AM	0	2	33	3	0	0	37	32	9	3	0	11	59	12	3	0	6	70	37	0
7:45 AM - 8:00 AM	0	4	31	3	0	0	33	30	14	2	0	7	53	7	0	0	12	102	46	3
<b>TOTAL</b>	<b>0</b>	<b>21</b>	<b>156</b>	<b>19</b>	<b>2</b>	<b>0</b>	<b>153</b>	<b>208</b>	<b>64</b>	<b>15</b>	<b>0</b>	<b>48</b>	<b>277</b>	<b>62</b>	<b>21</b>	<b>0</b>	<b>55</b>	<b>401</b>	<b>209</b>	<b>7</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	5	28	15	1	0	41	21	6	0	0	14	71	7	4	0	4	74	33	2
4:15 PM - 4:30 PM	0	7	28	11	3	0	31	29	10	2	0	18	69	7	1	0	3	79	20	2
4:30 PM - 4:45 PM	0	9	46	8	4	0	32	25	15	2	0	14	76	10	0	0	7	72	29	4
4:45 PM - 5:00 PM	0	9	21	13	0	0	43	21	13	0	0	18	87	5	1	0	2	86	30	0
5:00 PM - 5:15 PM	0	5	29	9	0	0	38	10	15	0	0	21	79	3	1	0	4	76	38	1
5:15 PM - 5:30 PM	0	4	36	7	0	0	40	25	9	0	0	19	93	3	0	0	4	75	26	1
5:30 PM - 5:45 PM	0	3	16	7	0	0	38	13	16	4	0	21	99	1	0	0	2	77	18	0
5:45 PM - 6:00 PM	0	5	20	5	0	0	41	19	10	1	0	9	85	3	1	0	2	63	28	2
<b>TOTAL</b>	<b>0</b>	<b>47</b>	<b>224</b>	<b>75</b>	<b>8</b>	<b>0</b>	<b>304</b>	<b>163</b>	<b>94</b>	<b>9</b>	<b>0</b>	<b>134</b>	<b>659</b>	<b>39</b>	<b>8</b>	<b>0</b>	<b>28</b>	<b>602</b>	<b>222</b>	<b>12</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	10	100	12	1	0	103	112	38	10	0	24	189	35	11	0	27	262	118	5
4:30 PM - 5:30 PM	0	27	132	37	4	0	153	81	52	2	0	72	335	21	2	0	17	309	123	6

	PHF	Trucks
AM	0.753	2.6%
PM	0.976	1.0%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

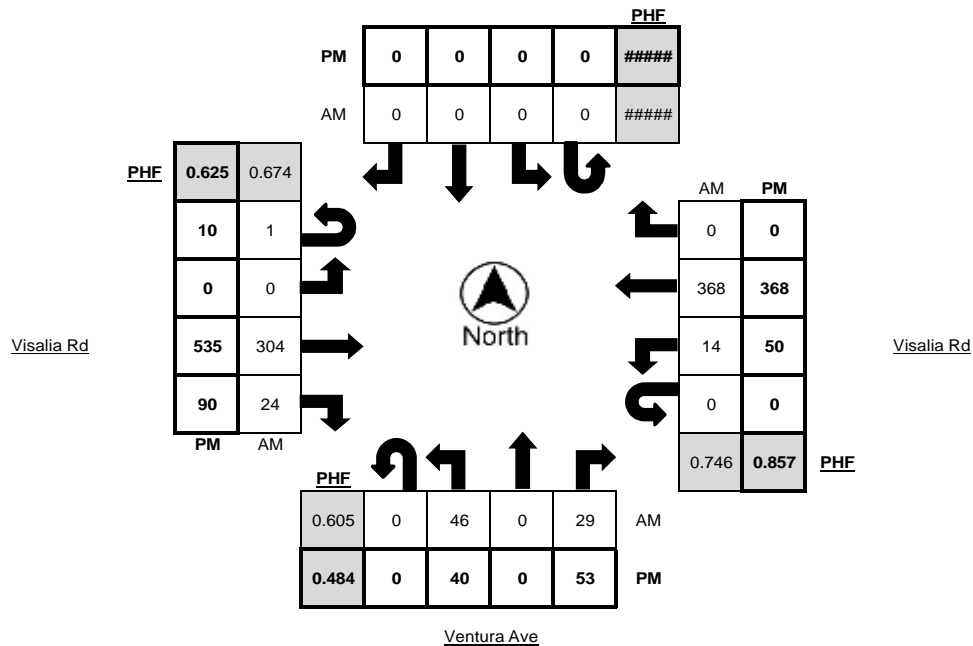
LOCATION Visalia Rd @ Ventura Ave LATITUDE 36.2978  
 COUNTY Tulare LONGITUDE -119.2117  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	6	0	2	0	0	0	0	0	0	0	0	25	4	1	0	1	31	0	0
6:15 AM - 6:30 AM	0	3	0	5	0	0	0	0	0	0	0	0	29	4	1	0	1	40	0	1
6:30 AM - 6:45 AM	0	9	0	5	0	0	0	0	0	0	0	0	45	5	0	0	3	53	0	2
6:45 AM - 7:00 AM	0	2	0	4	0	0	0	0	0	0	0	0	43	5	1	0	1	61	0	2
7:00 AM - 7:15 AM	0	5	0	3	1	0	0	0	0	0	1	0	37	5	3	0	2	53	0	0
7:15 AM - 7:30 AM	0	8	0	3	0	0	0	0	0	0	0	0	60	4	3	0	2	72	0	2
7:30 AM - 7:45 AM	0	14	0	11	1	0	0	0	0	0	0	0	96	4	2	0	6	122	0	1
7:45 AM - 8:00 AM	0	19	0	12	2	0	0	0	0	0	0	0	111	11	1	0	4	121	0	1
<b>TOTAL</b>	<b>0</b>	<b>66</b>	<b>0</b>	<b>45</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>446</b>	<b>42</b>	<b>12</b>	<b>0</b>	<b>20</b>	<b>553</b>	<b>0</b>	<b>9</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	8	0	18	0	0	0	0	0	0	3	0	105	10	2	0	10	98	0	2
4:15 PM - 4:30 PM	0	6	0	13	0	0	0	0	0	0	1	0	93	17	1	0	10	103	0	1
4:30 PM - 4:45 PM	0	4	0	8	0	0	0	0	0	0	0	0	103	9	0	0	7	93	0	4
4:45 PM - 5:00 PM	0	9	0	6	0	0	0	0	0	0	0	0	97	18	0	0	18	104	0	0
5:00 PM - 5:15 PM	0	15	0	33	0	0	0	0	0	0	10	0	210	34	1	0	14	85	0	1
5:15 PM - 5:30 PM	0	7	0	7	0	0	0	0	0	0	0	0	126	15	0	0	11	98	0	1
5:30 PM - 5:45 PM	0	9	0	7	0	0	0	0	0	0	0	0	102	23	0	0	7	81	0	0
5:45 PM - 6:00 PM	0	9	0	5	0	0	0	0	0	0	0	0	116	6	1	0	5	81	0	3
<b>TOTAL</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>97</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>952</b>	<b>132</b>	<b>5</b>	<b>0</b>	<b>82</b>	<b>743</b>	<b>0</b>	<b>12</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	46	0	29	4	0	0	0	0	0	1	0	304	24	9	0	14	368	0	4
4:45 PM - 5:45 PM	0	40	0	53	0	0	0	0	0	0	10	0	535	90	1	0	50	368	0	2

	PHF	Trucks
AM	0.707	2.2%
PM	0.714	0.3%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

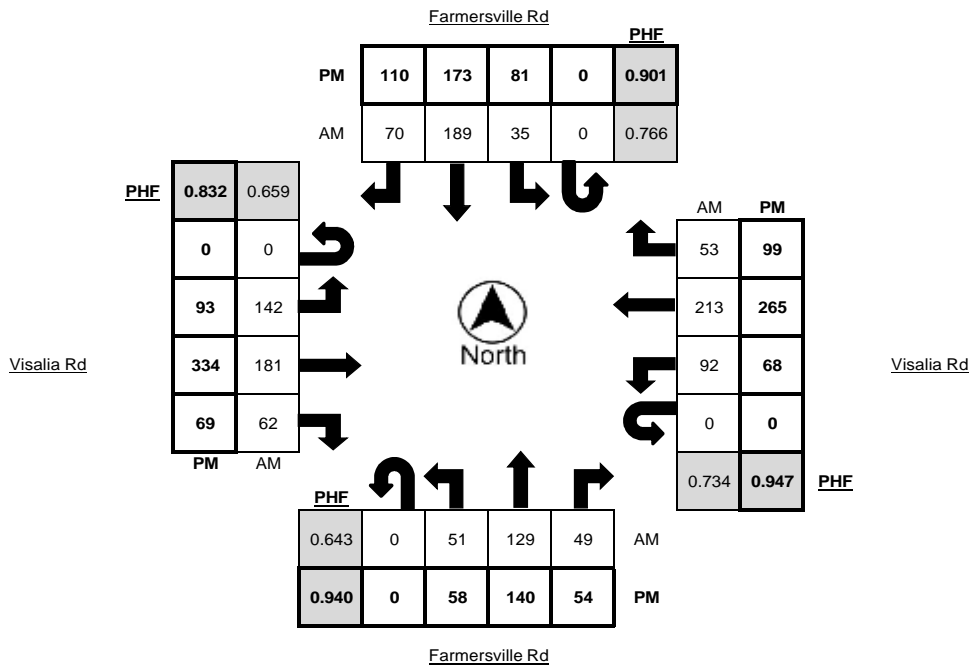
LOCATION Visalia Rd @ Farmersville Rd LATITUDE 36.2978  
 COUNTY Tulare LONGITUDE -119.2072  
 COLLECTION DATE Tuesday, March 29, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	5	16	5	0	0	1	28	5	0	0	7	12	5	1	0	7	11	7	1
6:15 AM - 6:30 AM	0	4	16	7	2	0	6	32	3	0	0	12	19	7	1	0	15	20	4	0
6:30 AM - 6:45 AM	0	9	22	10	2	0	16	32	9	1	0	8	25	22	0	0	14	35	10	2
6:45 AM - 7:00 AM	0	3	21	10	0	0	11	28	11	1	0	6	42	13	1	0	10	39	4	2
7:00 AM - 7:15 AM	0	4	20	8	0	0	4	19	17	0	0	10	20	8	3	0	12	30	12	1
7:15 AM - 7:30 AM	0	13	20	6	2	0	9	45	16	2	0	30	36	13	3	0	16	39	11	4
7:30 AM - 7:45 AM	0	19	49	21	3	0	17	65	14	2	0	48	54	20	1	0	31	72	19	3
7:45 AM - 8:00 AM	0	15	40	14	0	0	5	60	23	1	0	54	71	21	3	0	33	72	11	1
<b>TOTAL</b>	<b>0</b>	<b>72</b>	<b>204</b>	<b>81</b>	<b>9</b>	<b>0</b>	<b>69</b>	<b>309</b>	<b>98</b>	<b>7</b>	<b>0</b>	<b>175</b>	<b>279</b>	<b>109</b>	<b>13</b>	<b>0</b>	<b>138</b>	<b>318</b>	<b>78</b>	<b>14</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	24	45	18	1	0	24	41	24	1	0	28	57	15	2	0	19	59	29	3
4:15 PM - 4:30 PM	0	15	41	17	2	0	21	31	37	3	0	22	65	14	1	0	18	72	13	0
4:30 PM - 4:45 PM	0	16	39	11	0	0	20	43	28	2	0	17	75	20	0	0	16	66	32	6
4:45 PM - 5:00 PM	0	19	33	14	1	0	23	50	28	1	0	17	76	11	1	0	15	63	18	0
5:00 PM - 5:15 PM	0	13	25	15	1	0	17	42	26	1	0	36	99	14	1	0	20	59	30	1
5:15 PM - 5:30 PM	0	10	43	14	2	0	21	38	28	0	0	23	84	24	0	0	17	77	19	2
5:30 PM - 5:45 PM	0	16	41	16	1	0	18	43	18	2	0	24	67	17	0	0	14	67	15	1
5:45 PM - 6:00 PM	0	14	32	19	0	0	14	32	17	0	0	21	70	15	3	0	16	52	15	3
<b>TOTAL</b>	<b>0</b>	<b>127</b>	<b>299</b>	<b>124</b>	<b>8</b>	<b>0</b>	<b>158</b>	<b>320</b>	<b>206</b>	<b>10</b>	<b>0</b>	<b>188</b>	<b>593</b>	<b>130</b>	<b>8</b>	<b>0</b>	<b>135</b>	<b>515</b>	<b>171</b>	<b>16</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	51	129	49	5	0	35	189	70	5	0	142	181	62	10	0	92	213	53	9
4:30 PM - 5:30 PM	0	58	140	54	4	0	81	173	110	4	0	93	334	69	2	0	68	265	99	9

	PHF	Trucks
AM	0.738	2.3%
PM	0.970	1.2%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
 800-975-6938 Phone/Fax  
 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruettgers & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

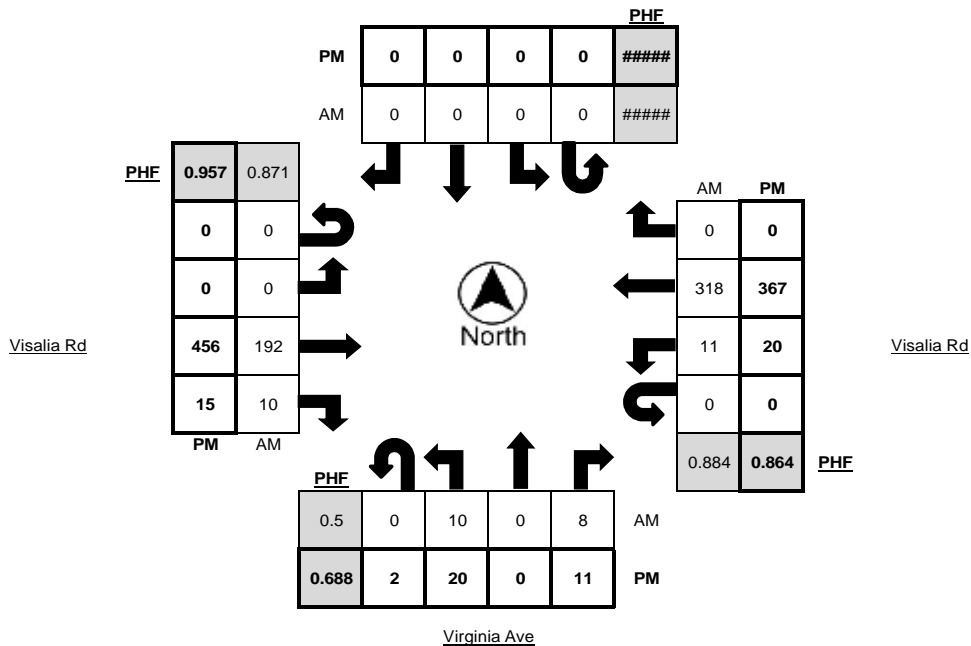
LOCATION Visalia Rd @ Virginia Ave LATITUDE 36.2978  
 COUNTY Tulare LONGITUDE -119.2159  
 COLLECTION DATE Tuesday, June 14, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	3	0	2	0	0	0	0	0	0	0	0	21	0	1	0	2	36	0	0
6:15 AM - 6:30 AM	0	1	0	5	0	0	0	0	0	0	0	0	14	2	0	0	2	43	0	1
6:30 AM - 6:45 AM	0	1	0	5	0	0	0	0	0	0	0	0	34	3	1	0	2	72	0	1
6:45 AM - 7:00 AM	1	5	0	0	0	0	0	0	0	0	0	0	37	2	2	0	3	68	0	1
7:00 AM - 7:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	41	1	5	0	2	57	0	2
7:15 AM - 7:30 AM	0	5	0	4	0	0	0	0	0	0	0	0	53	2	0	0	2	87	0	1
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	46	1	2	0	2	91	0	3
7:45 AM - 8:00 AM	0	2	0	3	0	0	0	0	0	0	0	0	52	6	4	0	5	83	0	2
<b>TOTAL</b>	<b>1</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>298</b>	<b>17</b>	<b>15</b>	<b>0</b>	<b>20</b>	<b>537</b>	<b>0</b>	<b>11</b>

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	1	0	5	0	0	0	0	0	0	0	0	98	4	2	0	6	85	0	1
4:15 PM - 4:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	121	2	0	0	4	87	0	4
4:30 PM - 4:45 PM	0	3	0	3	1	0	0	0	0	0	0	0	120	2	4	0	4	83	0	1
4:45 PM - 5:00 PM	2	4	0	0	0	0	0	0	0	0	0	0	91	7	2	0	2	77	0	1
5:00 PM - 5:15 PM	0	9	0	3	0	0	0	0	0	0	0	0	118	5	1	0	3	109	0	1
5:15 PM - 5:30 PM	1	3	0	1	0	0	0	0	0	0	0	0	113	3	0	0	8	71	0	1
5:30 PM - 5:45 PM	1	5	0	4	0	0	0	0	0	0	0	0	114	4	1	0	6	101	0	0
5:45 PM - 6:00 PM	0	3	0	3	0	0	0	0	0	0	0	0	111	3	0	0	3	86	0	0
<b>TOTAL</b>	<b>4</b>	<b>31</b>	<b>0</b>	<b>22</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>886</b>	<b>30</b>	<b>10</b>	<b>0</b>	<b>36</b>	<b>699</b>	<b>0</b>	<b>9</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	10	0	8	0	0	0	0	0	0	0	0	192	10	11	0	11	318	0	8
5:00 PM - 6:00 PM	2	20	0	11	0	0	0	0	0	0	0	0	456	15	2	0	20	367	0	2

	PHF	Trucks
AM	0.897	3.5%
PM	0.902	0.4%





**Metro Traffic Data Inc.**  
 310 N. Irwin Street - Suite 20  
 Hanford, CA 93230  
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 www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**Ruetters & Schuler Civil Engineers**  
 1800 30th St, Ste 260  
 Bakersfield, CA 93301

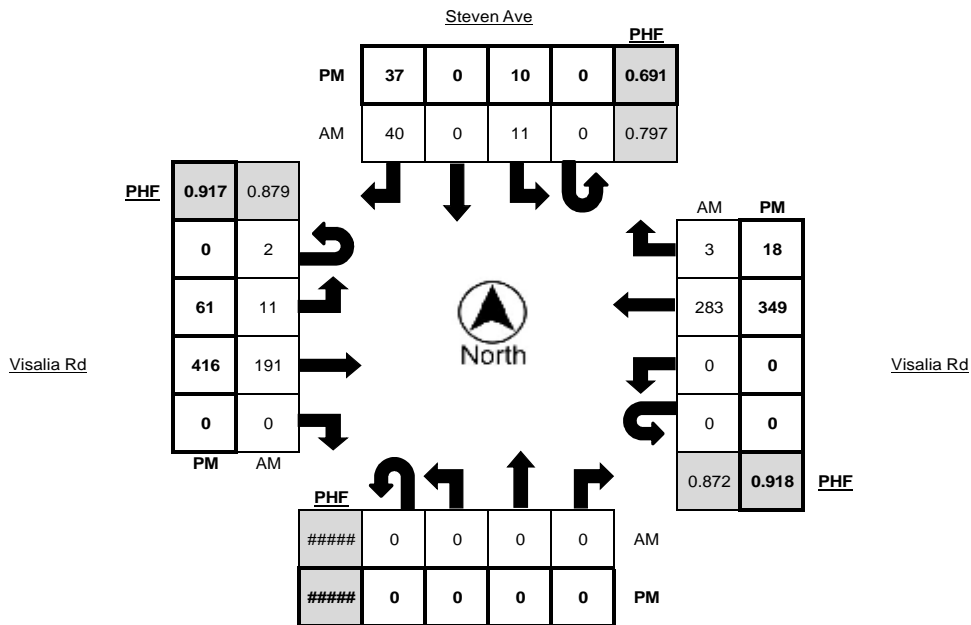
LOCATION Visalia Rd @ Steven Ave LATITUDE 36.2978  
 COUNTY Tulare LONGITUDE -119.2134  
 COLLECTION DATE Tuesday, June 14, 2022 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	0	0	0	0	0	6	0	6	0	0	2	22	0	1	0	0	30	1	0
6:15 AM - 6:30 AM	0	0	0	0	0	0	3	0	7	0	0	0	20	0	0	0	0	31	0	1
6:30 AM - 6:45 AM	0	0	0	0	0	0	4	0	11	0	0	3	34	0	1	0	0	64	2	0
6:45 AM - 7:00 AM	0	0	0	0	0	0	0	0	13	0	0	1	35	0	3	0	0	58	1	0
7:00 AM - 7:15 AM	0	0	0	0	0	0	3	0	7	0	1	0	43	0	6	0	0	51	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	3	0	9	0	1	5	52	0	0	0	0	77	1	1
7:30 AM - 7:45 AM	0	0	0	0	0	0	2	0	11	0	0	3	46	0	1	0	0	81	1	2
7:45 AM - 8:00 AM	0	0	0	0	0	0	3	0	13	0	0	3	50	0	3	0	0	74	1	2
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>77</b>	<b>0</b>	<b>2</b>	<b>17</b>	<b>302</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>466</b>	<b>7</b>	<b>7</b>

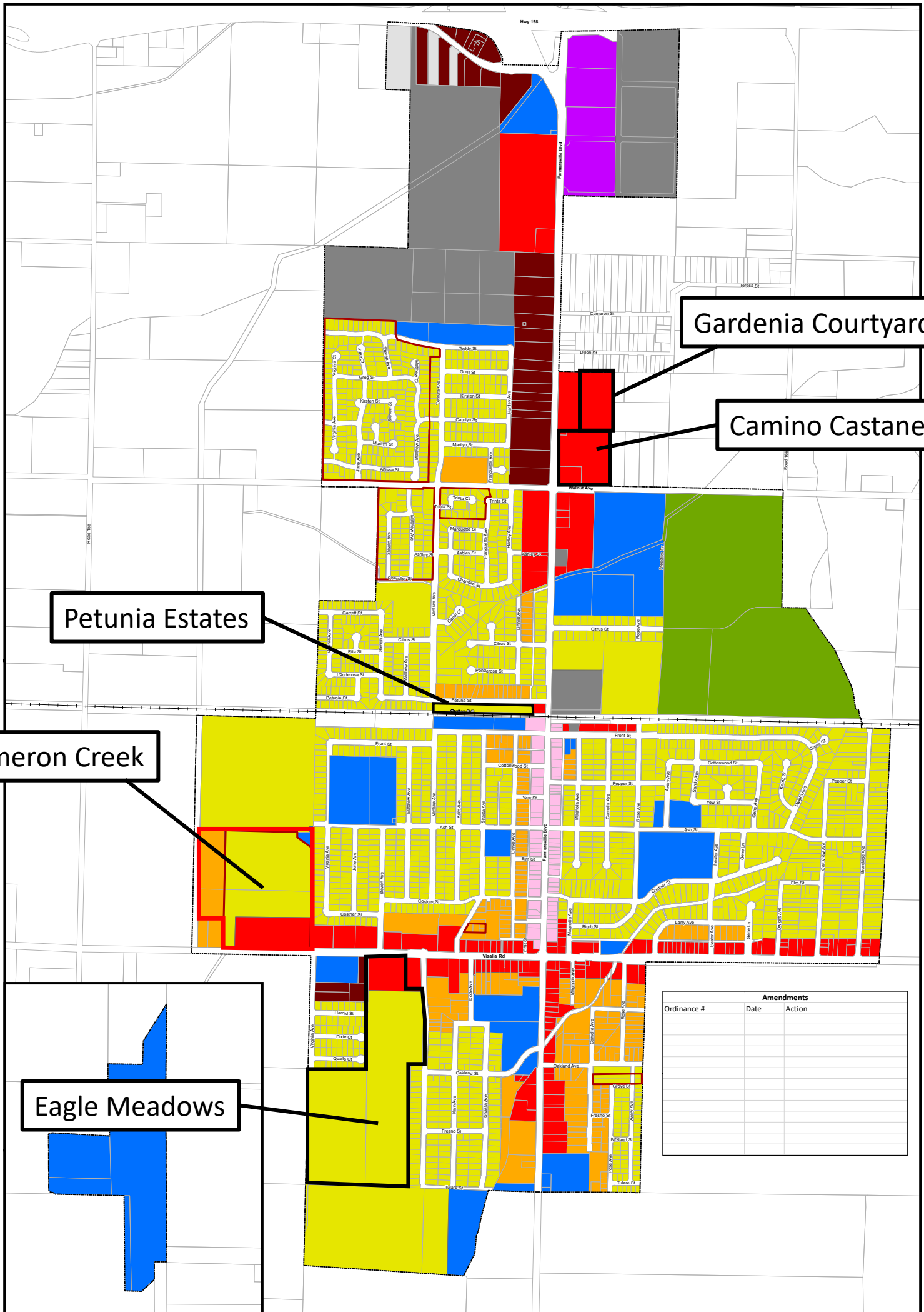
Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	0	0	0	0	3	0	8	0	0	8	95	0	2	1	0	83	4	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	1	0	8	0	0	11	116	0	0	0	0	82	4	3
4:30 PM - 4:45 PM	0	0	0	0	0	0	2	0	6	0	0	13	108	0	3	0	0	80	5	2
4:45 PM - 5:00 PM	0	0	0	0	0	0	5	0	8	0	0	15	82	0	1	1	0	73	4	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	3	0	11	0	0	18	112	0	3	0	0	97	3	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	4	0	3	0	0	15	105	0	0	0	0	78	7	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	2	0	15	0	0	15	102	0	2	0	0	95	5	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	1	0	8	0	0	13	97	0	1	0	0	79	3	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>108</b>	<b>817</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>667</b>	<b>35</b>	<b>8</b>

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	0	0	0	0	0	11	0	40	0	2	11	191	0	10	0	0	283	3	6
5:00 PM - 6:00 PM	0	0	0	0	0	0	10	0	37	0	0	61	416	0	6	0	0	349	18	2

	PHF	Trucks
AM	0.914	3.0%
PM	0.913	0.9%







Cameron Creek

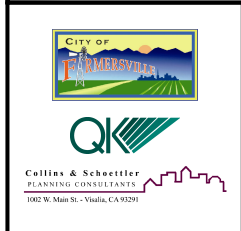
Petunia Estates

Gardenia Courtyards

Camino Castaneda

Eagle Meadows

Amendments		
Ordinance #	Date	Action



### City of Farmersville Zoning Map

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> R-1 Single Family Residential</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> RM-2.5 - Multi Family Residential - One Unit per 2,500 s.f. of Lot Area</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: brown; border: 1px solid black; margin-right: 5px;"></span> RM-4.5 - Multi Family Residential - One Unit per 4,000 s.f. of Lot Area</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: pink; border: 1px solid black; margin-right: 5px;"></span> CC - Central Commercial</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> CG - General Commercial</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: darkred; border: 1px solid black; margin-right: 5px;"></span> CS - Service Commercial</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> HC - Highway Commercial</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: grey; border: 1px solid black; margin-right: 5px;"></span> I - Industrial</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: lightgrey; border: 1px solid black; margin-right: 5px;"></span> IL - Light Industrial</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black; margin-right: 5px;"></span> P-QP - Public / Quasi Public</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> U-R - Urban Reserve</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; border: 2px solid red; width: 15px; height: 15px; margin-right: 5px;"></span> Planned Development Overlay</li> <li><span style="display: inline-block; border-bottom: 2px dashed black; width: 20px; margin-right: 5px;"></span> City Limit</li> <li><span style="display: inline-block; border-bottom: 1px solid black; width: 20px; margin-right: 5px;"></span> Land Parcel</li> <li><span style="display: inline-block; border-bottom: 2px dashed black; width: 20px; margin-right: 5px;"></span> Railroad Track</li> </ul>
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**N**

This map was prepared using GIS Geographical Information System. Every reasonable effort has been made to ensure accuracy of the data. However, the City of Farmersville does not warrant the accuracy, completeness, or timeliness of the information. The City of Farmersville is not responsible for any errors or omissions, or for any consequences arising from the use of the information. It is intended for display purposes and does not replace official records.

Version: 3.0
Date: 12/16/2019

## CUMULATIVE PROJECTS TRIP GENERATION

7/11/2023

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	18 Dwelling Units	eq	208	eq	25% 4	75% 12	eq	63% 12	37% 8
220	Multifamily Housing (Low Rise)	168 Dwelling Units	eq	1152	eq	24% 18	76% 57	eq	62% 58	38% 35
821	Shopping Plaza (40-150k)	87.12 1000 sq ft GLA	eq	8118	eq	62% 191	38% 117	eq	48% 378	52% 409
822	Strip Retail Plaza (<40k)	25.7 1000 sq ft GLA	eq	1314	eq	60% 32	40% 22	eq	50% 76	50% 76
sub-total				10,793		288	335		524	528
<i>adjustments</i>										
Capture <sup>1</sup>		5%		540		11	7		23	24
Pass-by <sup>2</sup>		15%		2,532		61	40		133	137
Total				7,721		216	288		368	367