Sierra Pines Air Quality and Greenhouse Gas Technical Study

PREPARED FOR:
City of Rocklin
4081 Alvis Court
Rocklin, CA 95677

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May 31, 2017

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1 INTRODUCTION

This Air Quality and Greenhouse Gas (GHG) Analysis identifies and analyzes the potential environmental impacts from the proposed Sierra Pines residential development (project) related to air quality and GHG emissions. The information and analysis in this document is organized in accordance with the checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines and in accordance with current State and local guidance.

2 PROJECT DESCRIPTION

The project includes the construction of 199 single-family homes on a 26-acre vacant site located at 4300 Dominguez Road, in Rocklin CA, 95677. The project site is bound by Dominguez Road to the north and Pacific Street approximately 340 feet to the west. California State Highway 80 is located approximately 1,735 feet east of the project site.

Surrounding land uses include Taiga Forest Products and a Rocklin Unified School District bus parking facility to the west, light commercial and industrial land uses to the west, including Dawson's Oil, and a newly developing single-family residential subdivision to the northwest, Pacific MDF Products and two newly developing single-family residential subdivisions and a multi-family apartment complex to the east, a vegetative barrier to the south with light commercial and office land uses and a newly developing single-family residential subdivision to the south of the vegetation. See Exhibit 1 and 2 for project location and surrounding land uses. Project construction is anticipated to begin in early 2018 and complete by 2020.

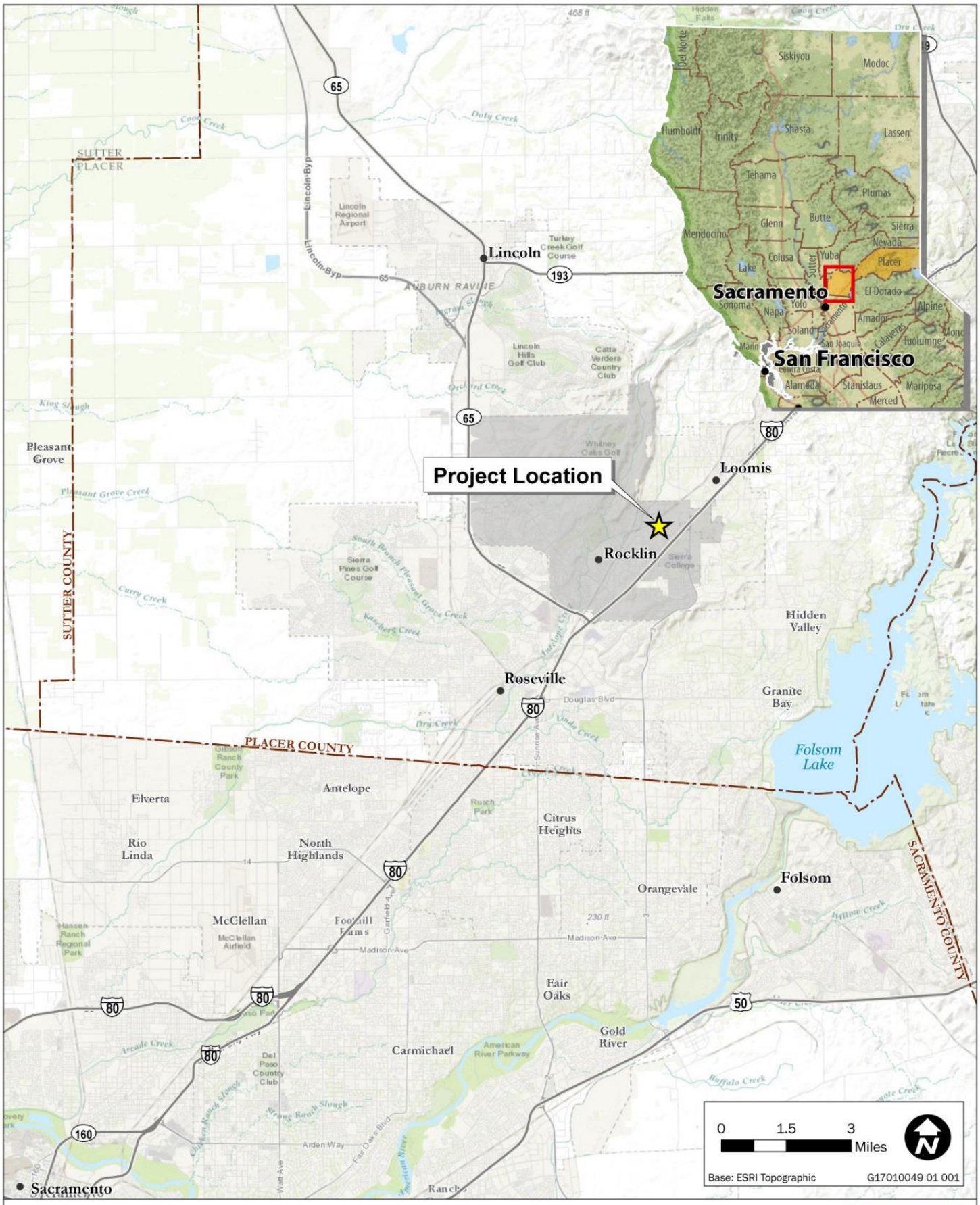

Exhibit 1 **Project Vicinity and Location**

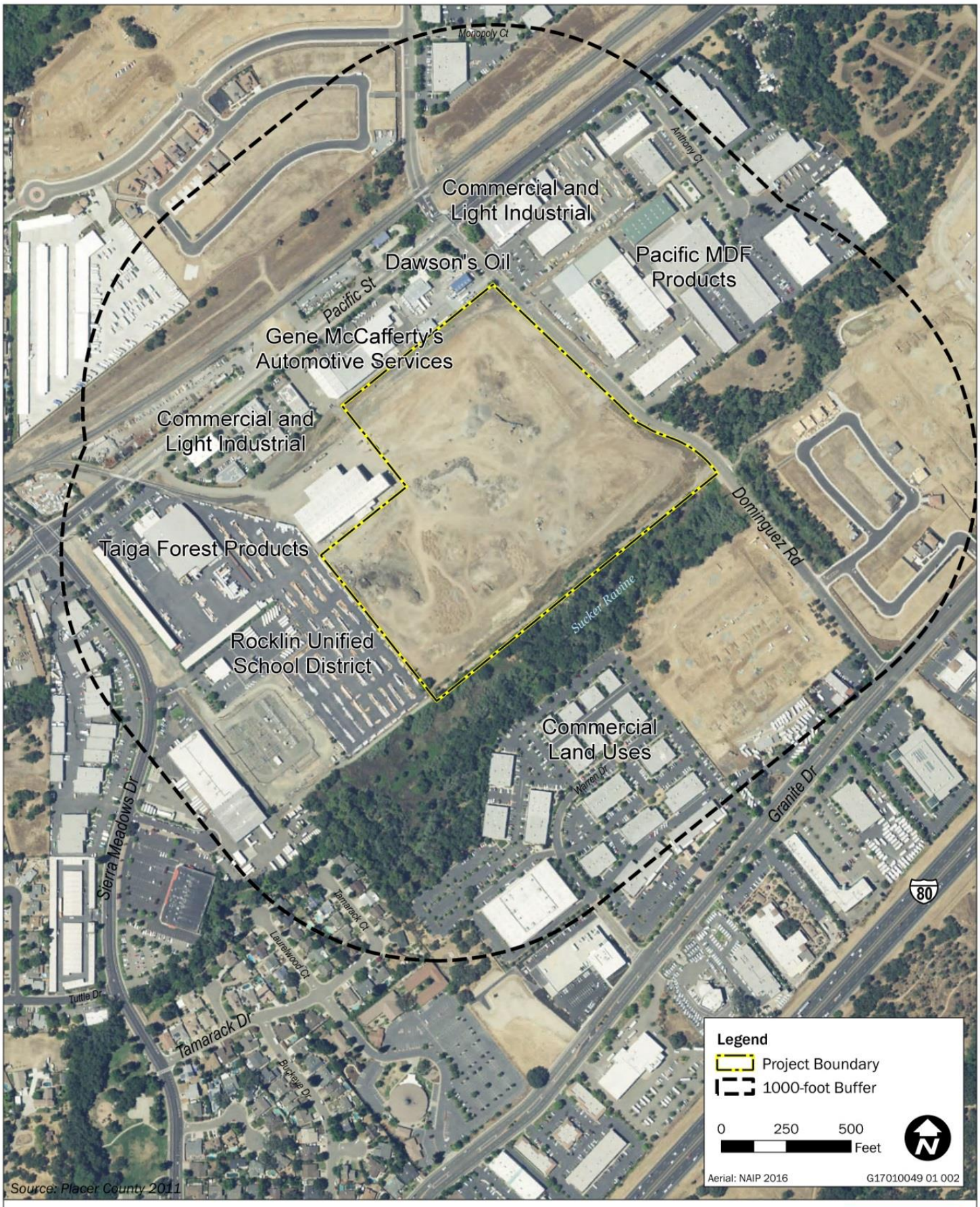

Exhibit 2 **Existing Land Uses**

ASCENT ENVIRONMENTAL

3 AIR QUALITY

This section includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term and long-term air quality impacts that could result from buildout of the Sierra Pines residential development project. The method of analysis for short-term construction, long-term regional (operational), local mobile-source, and toxic air emissions is consistent with the recommendations of the Placer County Air Pollution Control District (PCAPCD), the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA). In addition, mitigation measures are recommended as necessary to reduce significant air quality impacts.

3.1 ENVIRONMENTAL SETTING

The project site is located in a portion of western Placer County that is part of the Sacramento Valley Air Basin (SVAB) and is under jurisdiction of the PCAPCD. The SVAB comprises of the western portion of Placer County, the eastern portion of Solano County, and all of Shasta, Tehama, Glenn, Butte, Colusa, Sutter, Yuba, Yolo, and Sacramento counties. The ambient concentrations of air pollutant emissions in an air basin are determined by the amount of pollutants emitted and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as climate, meteorology, and topography, in addition to the level of emissions by existing air pollutant sources.

The SVAB is a relatively flat area ringed by tall mountains: the north Coast Ranges to the west, Cascade Range to the north, and Sierra Nevada Range along the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento River–San Joaquin River Delta from the San Francisco Bay area. The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. The local meteorology of the project site and surrounding area is represented by measurements recorded at the Western Regional Climate Center (WRCC) Sacramento 5 ESE station. The normal annual precipitation is approximately 18 inches. January temperatures range from a normal minimum of 40°F to a normal maximum of 54°F. July temperatures range from a normal minimum of 59°F to a normal maximum of 92°F (WRCC 2016).

3.1.1 Criteria Air Pollutants

CARB provides emissions estimates for the portion of Placer County that is within the SVAB in the 2012 inventory – the most recent available inventory. According to this inventory, mobile sources are the largest contributor to the estimated annual average for air pollutant levels of reactive organic gases (ROG) and oxides of nitrogen (NO_X) (accounting for approximately 47 percent and 73 percent, respectively), of the total emissions. Area-wide sources account for approximately 76 percent and 56 percent of the County's emissions), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$) emissions, respectively (CARB 2013).

Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead are used as indicators of ambient air quality conditions and are referred to as criteria air pollutants (CAPs). Criteria air pollutants are air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set by EPA and CARB.

Of the many pollutants, ozone (O_3) and particulate matter [i.e., PM_{10} and $PM_{2.5}$)] are of primary concern within the County, as well as for much of the rest of the State. The western region of Placer County is considered by the State, under the terms of the California Clean Air Act (CCAA), to be "non-attainment" for ozone and PM_{10}. Additionally, under the terms of the National Ambient Air Quality Standards (NAAQS), the County is categorized as "non-attainment" for the 8-hour ozone standard and "non-attainment" for the $PM_{2.5}$ standard (PCAPCD, 2016).

3.1.2 Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in relatively minute quantities in the ambient air; however, their high toxicity and associated health effects may pose a threat to public health even at low concentrations. Unlike criteria air pollutants, TACs are pollutants of local concern because they can present harmful effects when they are emitted in close proximity to sensitive receptors.

The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most prominent being diesel particulate matter (PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Sources of TACs near the project site include major highways and roadways, associated with the presence of diesel PM emissions from vehicle exhaust and various stationary sources associated with nearby industrial land uses. Interstate 80 (I-80) is located approximately 1,800 feet the southeast of the project site. There are several industrial facilities located within close proximity (i.e., 1,000 feet) to the project area which are currently in operation. See Exhibit 2 for surrounding land uses.

Pacific MDF Products is a medium-density fiberboard (MDF) manufacture located 270 feet northeast of the project site. Pacific MDF manufactures various MDF construction products (e.g., molding, trim) which could result in various emissions from the use of resin binders and product finishes (e.g., paint, coatings). Dawson's Oil is a commercial diesel fuel dispensing facility located 80 feet (pumps are located 200 feet) to the northwest of the project site. Primary emissions would include diesel PM and result from off-gassing during the pumping process, from spills on the ground, and from storage tank vent valves. Taiga Forest Products is a lumber wholesale distributor and does not manufacture any products onsite, located adjacent to the south west of the project site. Emissions may occur from the use of small mobile equipment such as loaders and lifts. The Rocklin Unified School District owns a corporation yard 250 feet to the south of the project site. Operations include parking, storage, and maintenance of school busses. Other various commercial uses (e.g., automotive, hardware stores, pharmaceutical retail) exist surrounding the project site but would not be considered TAC sources.

3.1.3 Naturally Occurring Asbestos

Although naturally occurring asbestos occurs throughout the State, occurrences within Placer County are located within the broad zone of faults that follows the low foothills and lay in a southeast to northwest

band. The Placer County communities of Auburn, Colfax, Meadow Vista, and Foresthill are among those that are within this fault band. Generally, the areas in Placer County that lay to the west of Folsom Lake and to the south of Wise Road are geologic areas that have a lower probability for the presence of NOA. Roseville, Granite Bay, Rocklin, Lincoln, Loomis, Penryn, and Newcastle lay within these geologic areas. Thus, naturally occurring asbestos is unlikely to be found within the project area (Van Gosen and Clinkenbeard 2011).

3.1.4 Odors

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

3.1.5 Sensitive Receptors

Land uses considered sensitive to air quality are generally those that include uses where exposure to pollutants could result in health-related risks to individuals. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences), that may experience adverse effects from unhealthful concentrations of air pollutants.

New residences would be constructed as part of the project and located throughout the project site. Existing sensitive receptors within the vicinity of the project site include the Mosaic Christian Church 1,000 feet to the south of the site, the Angels in Action Learning Center, a preschool, 1,700 feet to the east of the site, and newly developing residential units 690 feet to the northwest, 220 feet to the east, and 300 feet to the south of the project site. The newly developing residential projects surrounding the project site are not yet complete and, therefore, people do not currently reside there. However, as these residential projects continue to develop, it is likely that they would be occupied prior to development of the project and thus are considered the nearest sensitive receptors for purposes of this analysis.

3.2 REGULATORY SETTING

Air quality in the project area is regulated by EPA, CARB, and PCAPCD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, state and local regulations may be more stringent.

3.2.1 Federal

EPA has been charged with implementing national air quality programs. EPA air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990. The CAA required EPA to establish the NAAQS. EPA has established primary and secondary NAAQS for the following CAPs: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation

plan (SIP), for areas that do not attain the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with areas that are not in attainment of all NAAQSs to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and permitting of stationary air pollution sources in the nonattainment air basin.

Under the CAA requirements, each nonattainment area throughout the state is required to develop a regional air quality management plan. Collectively, all regional air quality management plans throughout the state constitute the SIP. In accordance with the requirements of the CAA, PCAPCD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Sacramento Metropolitan Air Quality Management District 2013a), which was approved by the EPA on March 2, 2015. The 2013 Ozone Attainment Plan revision shows that the region continues to meet federal progress requirements and demonstrates that the Sacramento Region will meet the 1997 NAAQS by 2018. The 2013 Ozone Attainment Plan updates the emissions inventory, provides a review of photochemical modeling results based on changes in the emissions inventories, updates the reasonable further progress and attainment demonstrations, revises adoption dates for control measures, and establishes new motor vehicle emissions budgets for transportation conformity purposes. Regional air districts including PCAPCD also prepared the *$PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area* (Sacramento Metropolitan Air Quality Management District 2013b).

3.2.2 State

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA. California law authorizes CARB to set ambient (outdoor) air pollution standards (California Health and Safety Code section 39606) in consideration of public health, safety, and welfare (California Ambient Air Quality Standards [CAAQS]. CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned CAPs. The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest date practical. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

3.2.3 Local

PCAPCD attains and maintains air quality conditions in Placer County, through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. PCAPCD's clean air strategy includes preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA.

All projects in the Placer County are subject to adopted PCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the project may include but are not limited to the following:

- PCAPCD Rule 202—Visible Emissions,
- PCAPCD Rule 217—Cutback and Emulsified Asphalt Paving Materials,
- PCAPCD Rule 218—Application of Architectural Coatings,
- PCAPCD Rule 228—Fugitive Dust, and
- PCAPCD Rule 501—Permit Requirements.

THE CITY OF ROCKLIN GENERAL PLAN

The 2012 City of Rocklin General Plan has the following policies related to air quality.

- **OCR-58:** Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.

- **OCR-59:** Continue to consult with the PCAPCD in the development of stationary and mobile source control measures affecting the City of Rocklin.

- **S-24:** Reduce the exposure of sensitive receptors to potential health risks from toxic air contaminants (TACs).

3.2.4 Toxic Air Contaminants

At the local level, air districts may adopt and enforce CARB's airborne toxic control measures. Under PCAPCD Rule 501 ("Permit Requirements") and PCAPCD Rule 502 ("New Source Review") and Rule 507 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operators if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through several programs.

Sources that require a permit are analyzed by PCAPCD (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that the project will emit toxics in excess of a PCAPCD-established threshold standard of significance for TACs (i.e., 10 in one million or a hazard index greater than 1.0), sources have to implement the Best Available Control Technology (BACT) for TACs to reduce emissions. If a source cannot reduce the risk below the threshold standard of significance even after the BACT has been implemented, the air district will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs.

3.2.5 Odors

PCAPCD has determined some common types of facilities that have been known to produce odors: wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm, and federal and state air quality regulations do not contain any requirements for their control, PCAPCD has no rules or standards related to odor emissions other than their nuisance rules:

PCAPCD Rule 205—Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

Any actions related to odors are based on citizen complaints to local governments and the air districts.

3.3 METHODS

Short-term construction-related emissions of CAPs and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 computer program, as recommended by the City of Rocklin and PCAPCD. Modeling was based on project-specific information (e.g., number of residential units, size, operational year), where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type.

Construction is assumed to begin in 2018 and the project operational by 2020. Construction phases are assumed to occur sequentially with the exception of architectural coating. An off-model adjustment was made for ROG, assuming that the architectural coating phase would occur concurrently with the building construction phase and paving phase. For a detailed description of model input and output parameters and assumptions, refer to Appendix A.

Operational-related emissions were estimated using CalEEMod Version 2016.3.1, as recommended by the City of Rocklin and PCAPCD. Modeling was based on project-specific information (e.g., number of residential units, size, operational year, trip generation), where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type. Operational mobile-source emissions were estimated using project-specific vehicle miles traveled (VMT). To estimate the project's VMT, the project was input into the recently developed City of Rocklin base year (2016) travel demand model. The model was run, and all travel to/from the traffic analysis zone (TAZ) representing the project were tracked throughout model (Fehr and Peers 2017). CalEEMod default trip lengths were adjusted to reflect project-specific VMT as estimated in the traffic study prepared for the project.

3.3.1 Significance Criteria

Based on the Placer County CEQA checklist and Appendix G of the State CEQA Guidelines, the project would result in a potentially significant impact on air quality if it would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any CAP for which the project region is in nonattainment under any applicable National or State ambient air quality standards (including releasing emissions that exceed quantitative standards for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations (including TACs); or
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air district may be relied on to make the above determinations. Thus, as identified by PCAPCD, an air quality impact also is considered significant if implementation of the project would result in:

- construction-generated criteria air pollutant or precursor emissions that would exceed the PCAPCD-recommended threshold of 82 pounds per day (lb/day) for ROG, NO_X, or PM_{10};

- operational phase project-level and cumulative-level criteria air pollutant or precursor emissions that would exceed the PCAPCD-recommended threshold of 55 lb/day for ROG and NO_X, and 82 lbs/day for PM_{10};

- long-term operational local mobile-source CO emissions that would exceed the CO standard as indicated by the following criteria:

  - A traffic study for the project indicates that the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., LOS E or F); or

  - A traffic study indicates that the project will substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included.

- creation of an objectionable odor affecting a substantial number of people or new development such as residential subdivisions that would subject a substantial number of new sensitive receptors to existing odor sources. PCAPCD's Recommended Odor Screening Distance table is reproduced below (Table 4.2 in the PCAPCD CEQA Handbook)

- exposure of sensitive receptors to TAC emissions would exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) or a noncarcinogenic Hazard Index of 1 for the maximally exposed individual.

3.4 DISCUSSION

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

and

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The project would result in emissions of criteria air pollutants and precursors, including ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with construction (short-term) and operation (long term).

Short-Term Construction-Related Criteria Air Pollutants and Precursors

Less than significant with Mitigation. Construction activities were estimated to begin as early as 2018 and be complete by 2020. Proposed construction would include site preparation, building construction, paving, and architectural coating activities that could result in fugitive dust and criteria air pollutants and ozone precursors.

Construction activities were modeled based on CalEEMod defaults. Table AQ-1 summarizes the modeled construction-related emissions of criteria air pollutants and ozone precursors for the proposed construction. The significance of construction-related air quality impacts was determined by comparing these modeling results with applicable significance thresholds. Refer to Appendix A for detailed modeling input parameters and results.

Table AQ-1 Summary of Maximum Daily Construction-Generated Emissions of Criteria Air Pollutants and Precursors

Year	Emissions (lb/day)		
	ROG	NO_X	PM_{10}
2018	9.8	107.8	32.5
2019	13.8	39.2	2.99
PCAPCD Threshold of Significance	*82*	*82*	*82*
Exceeds Threshold of Significance	No	Yes	No

Notes: lb/day = pounds per day; NO_X = oxides of nitrogen; ROG = reactive organic gases; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less, PCAPCD = Placer County Air Pollution Control District;
Refer to Appendix A for detailed assumptions and modeling output files.
Source: Emissions estimated by Ascent Environmental in 2017.

As shown in Table AQ-1, emissions of ROG and PM_{10} would not exceed the applicable thresholds adopted by PCAPCD during the construction period. However, projects that grade more than one acre may result in substantial dust emissions that could contribute adversely to the non-attainment status of the SVAB. Further, emissions of NO_X would exceed PCAPCD threshold of 82 lb/day during the most intense phase of construction, assumed to be in the first year.

Mitigation Measure AQ-1

The following measures are recommended to reduce construction-related dust and exhaust emissions.

- Prior to commencement of grading, the developer shall submit a Construction Emission / Dust Control Plan for approval by the City Engineer and the Placer County Air Pollution Control District. This plan must address how the project meets the minimum requirements of sections 300 and 400 of Rule 228-Fugitive Dust.

- Provisions for dust control, re-vegetation of disturbed areas, and erosion control, in conformance with the requirements of the City of Rocklin, including but not limited to the following (which shall be included in the project notes on the improvement plans):

  - During construction, the contractor shall utilize existing power sources (e.g., power poles) or clean fuel (e.g., gasoline, biodiesel, natural gas) generators to minimize the use of temporary diesel power generators.

  - During construction, the contractor shall minimize idling time to a maximum of 5 minutes for all diesel-powered equipment.

  - Traffic speeds on all unpaved road surfaces shall be posted at 15 mph or less.

  - All grading operations shall be suspended when fugitive dust emissions exceed District Rule 228-Fugitive Dust limitations. The prime contractor shall be responsible for having an individual who is CARB-certified to perform Visible Emissions Evaluations (VEE). This individual shall evaluate compliance with Rule 228 on a weekly basis.

  - Fugitive dust emissions shall not exceed 40% opacity and shall not go beyond the property boundary at any time. If lime or other drying agents are utilized to dry out wet grading areas, the developer shall ensure such agents are controlled so as not to exceed District Rule 228-Fugitive Dust limitations.

- The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall "wet broom" the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt mud or debris is carried over to adjacent public thoroughfares.

- The prime contractor shall suspend all grading operations when wind speeds (including instantaneous gusts) are excessive and dust is impacting adjacent properties.

- The contractor shall apply water or use other method to control dust impacts offsite. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.

- All construction equipment shall be maintained in clean condition.

- Chemical soil stabilizers, vegetative mats, or other appropriate best management practices, in accordance with manufacturers' specifications, shall be applied to all-inactive construction areas (previously graded areas which remain inactive for 96 hours).

- All exposed surfaces shall be revegetated as quickly as feasible.

- If fill dirt is brought to or exported from the construction site, tarps or soil stabilizers shall be placed on the dirt piles to minimize dust problems.

- Water shall be applied to control fugitive dust, as needed, to prevent impacts offsite. Operational water trucks shall be onsite to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.

- Processes that discharge 2 pounds per day or more of air contaminants, as defined by California State Health and Safety Code Section 39013, to the atmosphere may require a permit. Developers / Contractors should contact the PCAPCD prior to construction or use of equipment and obtain any necessary permits.

- In order to minimize wind driven dust during construction, the prime contractor shall apply methods such as surface stabilization, establishment of a vegetative cover, paving, (or use another method to control dust as approved by the City).

- Construction equipment exhaust emissions shall not exceed Placer County APCD Rule 202 Visible Emission limitations. Operators of vehicles and equipment found to exceed opacity limits are to be immediately notified by APCD to cease operations and the equipment must be repaired within 72 hours.

- Open burning of any kind shall be prohibited. All removed vegetative material shall be either chipped on site or taken to an appropriate recycling site, or if a site is not available, a licensed disposal site.

- Any diesel-powered equipment used during project construction shall be CARB-certified.

Mitigation Measure AQ-2

Inclusion of the above emission reduction measures would not ensure adequate NOx reduction to below PCAPCD thresholds of 82 lb/day and therefore the following additional measure is included:

- Prior to approval of Grading or Improvement Plans, whichever occurs first, the applicant shall provide a written calculation to PCAPCD for approval demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average of at least 25% of NOx and 45% of diesel PM reduction as compared to CARB statewide fleet average emissions. Acceptable options for reducing

emissions may include use of late model engines, low-emission diesel products (e.g., CARB approved High Performance Renewable Diesel), alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The Construction Emissions Mitigation Tool development by the Sacramento Metropolitan Air Quality Management District may be used to calculate compliance with this condition and shall be submitted to the District as described above.

Significance after Mitigation

Implementation of Mitigation Measure AQ-1 would minimize dust emissions and implementation of Mitigation Measure AQ-2 would result in a minimum of 25 percent reduction in NOx emissions, bringing the estimated maximum daily NO_X emissions in 2018 below the PCAPCD threshold of 82 lb/day (i.e., approximately 80 lb/day or less). Further, Mitigation Measures AQ-1 would require that a dust control plan be prepared and adhered to during construction to minimize dust emissions. Incorporation of Mitigation Measure AQ-1 and AQ-2 would reduce this impact to a less than significant level.

Long-Term Operational-Related Regional Criteria Air Pollutant and Precursor Emissions

Less than Significant. Operational-related emissions of criteria air pollutants and precursors would be primarily a result of vehicular traffic associated with the proposed development. Other sources include areawide emissions from the use of fireplaces, small landscape maintenance equipment (e.g., lawnmowers, leaf blowers), and consumer products (e.g., aerosols, hair products). Stationary sources include building energy emissions associated with the combustion of natural gas for heating, cooling, and other appliances. Table AQ-2 summarizes the modeled operational-related emissions of criteria air pollutants and ozone precursors for the proposed project. Based on the modeling conducted, the project would not exceed applicable PCAPCD operational thresholds of significance and, therefore, would not conflict with or obstruct air quality planning efforts in the project area or violate any air quality standard.

Table AQ-2 Summary of Maximum (unmitigated) Daily Operational-Generated Emissions of Criteria Air Pollutants and Precursors

Year	Emissions (lb/day)		
	ROG	NO_X	PM_{10}
Maximum Daily Operational Emissions	14.2	29.0	11.2
PCAPCD Threshold of Significance	*55*	*55*	*82*
Exceeds Threshold of Significance	No	No	No

Notes: lb/day = pounds per day; NO_X = oxides of nitrogen; ROG = reactive organic gases; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less, PCAPCD = Placer County Air Pollution Control District;
Refer to Appendix A for detailed assumptions and modeling output files.
Source: Emissions estimated by Ascent Environmental in 2017.

Mobile-Source CO Concentrations

Less than Significant. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels at nearby sensitive land uses, such as residential units, hospitals, schools, and childcare facilities. Thus, high local CO concentrations are considered to have a direct influence on the receptors they affect.

As described in the significance criteria above, PCAPCD provides screening criteria for CO impacts. If either of the following criteria is true of any intersection altered by the project traffic, the project could potentially exceed the CO standard:

- A traffic study for the project indicates that the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., LOS E or F); or

- A traffic study indicates that the project will substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included.

Based on the traffic study conducted for the project, the proposed development would not result in peak-hour traffic levels that would degrade any intersection from LOS A, B, C, or D to an unacceptable level of LOS E or F (Fehr and Peers 2017). Refer to Table 4 in Appendix B for further details. Implementation of the project would not result in long-term mobile-source CO emissions that would exceed the State CO standards or result in substantial CO concentrations.

c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant. As mentioned above, the western region of Placer County is considered by the State, under the terms of the CCAA, to be "non-attainment" for ozone and PM_{10}. Additionally, under the terms of the NAAQS, the County is categorized as "non-attainment" for the 8-hour ozone standard and "non-attainment" for the $PM_{2.5}$ standard. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, regional air pollution is inherently cumulative. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

Nonetheless, PCAPCD has established numerical cumulative thresholds for project-operations. As discussed above these thresholds are identical to the project-level thresholds. Thus, and as shown by the modeling in Table AQ-2, because project-level operational emissions would not exceed any applicable threshold they would also not exceed PCAPCD cumulative operational thresholds. In addition, it is important to note that future cumulative (2030) operational emissions would likely go down as compared existing plus project emissions. Based on the traffic-study conducted, cumulative VMT showed a 27.8 percent reduction over the existing plus project scenario and, therefore, this reduction would correlate directly to a reduction in mobile-source emissions in the future.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant. The project would result in short-term construction-related TACs associated with the use of heavy-duty diesel construction equipment and long-term operational-related mobile-source emissions of TACs associated with project-generated traffic. No new stationary sources are proposed. Construction and operational TAC emissions are discussed separately below.

Construction

Currently, existing sensitive receptors are located over 1,000 feet away from the project site. However, new residential development is under construction as close as 250 feet to the southeast of proposed construction activity, as shown in Exhibit 2 and described in Section 3.1.5 Sensitive Receptors. It is anticipated that newly constructed homes would be occupied during project construction and, therefore, this analysis assumes the newly constructed homes to the southeast of the project site could be exposed to construction-related TAC emissions from the project.

Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., demolition, clearing, grading); paving; application of architectural coatings; on-road truck travel; and other miscellaneous activities. For construction activity, diesel PM is the primary TAC of concern. With regards to exposure of diesel PM, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function

of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher level of health risk for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, Health Risk Assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70- or 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2012:11-3).

Based on the emissions modeling conducted and presented in Table AQ-1, above, maximum daily emissions of diesel exhaust PM_{10}, considered a surrogate for diesel PM, would not exceed approximately 8 lb/day during construction activity. Furthermore, even during the most intense year of construction (2018), emissions of diesel PM would be generated from different locations throughout the project site as buildings are complete. Consequently, it is important to consider that the use of off-road heavy-duty diesel equipment would be limited to the construction phase of less than two years. Further, Mitigation Measure AQ-1 and AQ-2 are recommended, which would reduce diesel PM emissions by up to 45 percent. Thus, given the relatively short and temporary nature of construction activities and the included mitigation measures that would reduce diesel exhaust, existing or potential future sensitive receptors would not be exposed to excessive levels of TAC emissions from construction activities.

Operations

The operational TAC analysis evaluates project-related TAC sources and the placement of new sensitive receptors in close proximity to existing TAC sources. The analysis is based on available guidance from CARB and PCAPCD.

In accordance with available guidance from CARB and PCAPCD, freeways or urban roadways experiencing 100,000 or more vehicles per day could expose sensitive receptors to adverse health risks. Based on the traffic study conducted, the project would result in a maximum of 1,894 daily trips (i.e., new TAC sources), traveling through six different intersections and multiple roadways (See Table 4 in Appendix B). Thus, no single affected roadway or intersection would experience an increase in vehicles daily trips of more than 1,894 vehicles, which would not be considered substantial in comparison to the recommended traffic volumes of 50,000 vehicles/day for rural roads or 100,000 vehicles/day on urban roads/freeways. Further, the project does not include any additional stationary sources of TACs and therefore would not contribute substantially to existing health risk levels in the area.

Regarding exposure of new sensitive receptors to existing TACs sources, as discussed above in the setting, there are several existing land uses surrounding the project that could result in various TAC emissions. These include the existing rail road, I-80, Pacific MDF Products, Dawson's Oil dispensing facility, Taiga Forest Products, and the Rockling USD corporation yard. See Figure 2 for location of each. TAC emissions and relative risk are discussed for each below and evaluated in accordance with CARB recommendations (Table AQ-3).

Table AQ-3 California Air Resources Board Recommendations on Siting New Sensitive Land Uses Such as Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points

Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater
Dry Cleaners Using Perchloroethylene	• Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Notes: CARB=California Air Resources Board.
Source: CARB 2005

Existing rail lines are located adjacent to the project site. However, consistent with CARB recommendations, rail yards are typically of greater concern regarding TAC emissions than individual rail lines. The J.R. Davis rail yard is located in Roseville approximately 6.5 miles southwest of the project site, well beyond the CARB-recommended distance of 1,000 feet. No ports, refineries, distribution centers, dry cleaners, or chrome platers are located within the CARB-recommended distances as shown above in Table AQ-3.

In accordance with CARB guidance, high volume roads and freeways are the primary sources of TACs within urban areas. Based on 2015 Caltrans data, annual average vehicle volumes on I-80 are high as 98,600 vehicles/day, and therefore could result in substantial risk levels near the freeway. However, the project site is located approximately 1,800 feet from I-80, well beyond the CARB-recommended distance of 500 feet (Table AQ-3). As such, risk levels from I-80 would not expose new receptors to substantial health risk.

Pacific MDF manufactures various construction materials from MDF board products. MDF manufacturing can result in particulate matter emissions during the MDF board manufacturing process (e.g., sanding, cutting) as well as other gaseous emissions such as formaldehyde associated with resins and finishing products (e.g., paint, coatings). Based on a public record search, this facility currently has a permit to operate from PCAPCD, which requires bag filters with 99.95 percent capture efficiency on saws used onsite, limits the volatile organic compound (VOC) content of paints used, and imposes emissions limits for all sources emitted at the site (Appendix A). Considering the control technology and emissions limits in place, this facility would not expose new receptors to substantial health risk.

Taiga Forest Products is a wholesale distributor of lumber products and does not manufacture products onsite that may result in TAC emissions. The use of small equipment such as loaders or lifts may result in minimal exhaust emissions, but would not be substantial.

Dawson's Oil is a commercial diesel gasoline dispensing facility, located adjacent to the project site. Gasoline dispensing facilities result in evaporative emissions, primarily benzene, from spills during fueling at the pumps and from vent valves located on storage tanks. Based on PCAPCD records, this facility pumped 668,739 gallons of gasoline in 2015 and 994,584 gallons in 2006 (Appendix A).

Consistent with CARB recommendations, a 50-foot separation distance between new receptors and this gasoline dispensing facility would be adequate to minimize TAC exposure. However, due to the close proximity of this source and the potential for health risks associated with diesel, a screening level health risk

assessment was conducted for the facility. Based on an annual throughput of 1,000,000 gallons and worst-case meteorological conditions, air dispersion modeling was conducted using default values and modeling parameters recommended by OEHHA (2015). Based on the modeling conducted, existing operations at Dawson's Oil would expose new sensitive receptors to a cancer risk of 3.4 chances in a million, which would not exceed PCAPCD's threshold of 10 in 1 million. Refer to Appendix A for modeling inputs and outputs.

In summary, the project would not result in any new stationary sources and would not result in a substantial increase in TAC emissions associated with mobile-sources such that the existing health risk in the project area would worsen.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause physical harm, they may still be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Construction associated with the project could result in odorous emissions from diesel equipment, asphalt paving, and the application of architectural coatings. However, such emissions would be short-term in nature and would dissipate rapidly with increasing distance from the source. Further, existing sensitive land uses are located over 1,000 feet from the proposed construction site. Development of the single-family residences would not introduce new, permanent sources of objectionable odors.

Implementation of the project would not involve the construction or operation of any major odor sources, and no existing sources of objectionable odors are located within the vicinity of the project. Thus, the project would not result in the exposure of residences or other sensitive receptors to objectionable odors.

4 GREENHOUSE GASES AND CLIMATE CHANGE

This section includes a discussion of greenhouse gases and climate change, a summary of applicable regulations, and an analysis of the greenhouse gas (GHG) emissions associated with construction- and operational-related activities that would result from buildout of the project. The method of analysis is consistent with the recommendations of the City of Rocklin and PCAPCD. In addition, mitigation measures are recommended as necessary to reduce significant greenhouse gas and climate change impacts.

4.1 ENVIRONMENTAL SETTING

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (IPCC 2014:5). By adoption of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 97, the State of California has acknowledged that the effects of GHG emissions cause adverse environmental impacts. AB 32 mandates that emissions of GHGs must be capped at 1990 levels by the year 2020.

GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of one single project would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change.

4.2 REGULATORY SETTING

In California GHG emissions are primarily regulated through the CARB, air districts, and local jurisdictions.as discussed below.

4.2.1 Executive Order S-3-05

Executive Order S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those problems, the Executive Order established total GHG emission targets for the State. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

4.2.2 Executive Order B-30-15

On April 20, 2015 Governor Edmund G. Brown Jr. signed Executive Order B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns

California's GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California is on track to meet or exceed the current target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed below). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 °C - the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels according to scientific consensus.

4.2.3 Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed AB 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "…shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The (Air Resources Board) shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

4.2.4 Assembly Bill 32 Climate Change Scoping Plan and Update

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons of carbon dioxide equivalent ($MMTCO_2$), or approximately 21.7 percent from the state's projected 2020 emission level of 545 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 47 $MMTCO_2e$, or almost 10 percent, from 2008 emissions). CARB's original 2020 projection was 596 $MMTCO_2e$, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan reapproved by CARB in August 2011 includes the Final Supplement to the Scoping Plan Functional Equivalent Document, which further examined various alternatives to Scoping Plan measures. The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. CARB estimates the largest reductions in GHG emissions to be achieved by 2020 will be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 26.1 $MMTCO_2e$);
- the Low-Carbon Fuel Standard (15.0 $MMTCO_2e$);
- energy efficiency measures in buildings and appliances (11.9 $MMTCO_2e$);
- a renewable portfolio and electricity standards for electricity production (23.4 $MMTCO_2e$); and
- the Cap-and-Trade Regulation for certain types of stationary emission sources (e.g., power plants).

In May 2014, CARB released and has since adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020. The update also reports the trends in GHG emissions from various emission sectors.

4.2.5 Senate Bill X1-2, the California Renewable Energy Resources Act of 2011

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently

owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

4.2.6 California Building Efficiency Standards (Title 24, Part 6)

Buildings in California are required to comply with California's Energy Efficiency Standards for Residential and Nonresidential Buildings established by the CEC regarding energy conservation standards and found in Title 24, Part 6 of the California Code of Regulations. California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after July 1, 2014 must follow the 2013 standards (CEC 2012). Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The CEC Impact Analysis for California's 2013 Building Energy Efficiency Standards estimates that the 2013 Standards are 23.3 percent more efficient than the previous 2008 standards for multi-family residential construction and 21.8 percent more efficient for non-residential construction (CEC 2013:3).

CEC adopted the 2016 Building Energy Efficiency Standards in 2015. The 2016 Title 24 standards went into effect on January 1, 2017. For single-family residences, the 2016 Title 24 standards will result in about 28 percent less energy use for lighting, heating, cooling, ventilation and water heating than the 2013 Title 24 standards (CEC 2015a).

4.2.7 Placer County Air Pollution Control District

PCAPCD currently recommends that lead agencies use thresholds of significance for evaluating construction- and operation-related GHG emissions adopted on October 13, 2016.These thresholds are intended to evaluate a project for consistency with GHG targets established in AB 32. Thresholds are included below in the Significance Criteria description.

4.2.8 City of Rocklin General Plan Goals and Policies

The 2012 City of Rocklin General Plan has the following goal and policies related to the reduction of GHG emissions.

GOAL FOR GREENHOUSE GAS EMISSION REDUCTION: Promote land use strategies that decrease reliance on automobile use, increase the use of alternative modes of transportation, maximize efficiency of services provision and reduce emissions of greenhouse gases.

Policies:

- **LU-68:** Adopt and implement land use strategies that utilize existing infrastructure, reduce the need for new roads, utilities and other public works in newly developing areas, and enhance nonautomobile transportation.

- **LU-69:** Encourage high-density, mixed-use, infill development and creative use of brownfield and under-utilized properties.
- **LU-70:** Increase densities in core areas to support public transit.
- **LU-71:** Add bicycle facilities to City streets and public spaces.
- **LU-72:** Promote infill, mixed-use, higher density development and the creation of affordable housing in mixed use zones.
- **LU-73:** Identify sites suitable for mixed-use development within existing service areas and establish appropriate site-specific standards to accommodate the mixed uses.
- **LU-74:** Promote greater linkage between land uses and transit, as well as other modes of transportation.
- **LU-75:** Promote development and preservation of neighborhood characteristics that encourage walking and bicycle riding in lieu of automobile-based travel

4.3 METHODS

Short-term construction-related emissions of CAPs and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 computer program, as recommended by the City of Rocklin and PCAPCD. Modeling was based on project-specific information (e.g., number of residential units, size, operational year), where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type. Construction is assumed to begin in 2018 and the project operational by 2020.

Operational-related emissions were estimated using CalEEMod Version 2016.3.1, as recommended by the City of Rocklin and PCAPCD. Modeling was based on project-specific information (e.g., number of residential units, size, operational year, trip generation), where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type. Operational mobile-source emissions were estimated using project-specific VMT, as discussed above in the Air Quality assessment. Daily VMT was multiplied by 347 days per year to estimate annual VMT to account for lower VMT during weekends, holidays, and summer periods. Improved utility emission factors as a result of California RPS were used to estimate operational emissions energy emissions. Further, a 75 percent solid waste diversion rate, as a result of SB 375, was applied to estimate operational GHG emissions associated with solid waste. Per capita emissions were based on a project population of 569 residents, default values in CalEEMod.

4.3.1 Significance Criteria

Based on the Placer County CEQA checklist and Appendix G of the CEQA Guidelines, impacts are considered significant if implementation of the project would do any of the following:

- generate GHGs, either directly or indirectly, that may have a significant impact on the environment; or
- conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air district may be relied on to make the above determinations. Thus, as identified by PCAPCD, a GHG impact is considered significant if implementation of the project would exceed the:

- Bright-line Threshold of 10,000 metric tons of CO_{2e} per year for construction and operational phase of land use projects and stationary source projects
- Efficiency Matrix of 4.5 metric tons of CO_{2e} per capita (applicable to residential projects in urban areas) which exceed the De Minimis level, and
- De Minimus Level of 1,100 metric tons of CO_{2e} per year for the construction and operational phases of the project.

4.4 DISCUSSION

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

and

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

Less than Significant with Mitigation. Construction of the project would generate GHG emissions from off-road heavy-duty equipment, trucks hauling construction supplies, and worker commute trips. Emissions of GHGs from construction activities would be primarily associated with off-road (e.g., gas and diesel) construction equipment exhaust; secondary sources would include on-road trucks for import and export of materials and worker vehicles for commuting. Annual GHG emissions associated with construction of the project are shown in Table GHG-1 below.

Table GHG-1 Summary of Modeled Emissions of GHG Associated with Project Construction Activities

Year	CO_{2e} (MT/yr)
2018	510
2019	381
Maximum	510
Average	446
De Minimis Threshold of Significance	*1,100*
Exceeds Threshold of Significance?	*No*

Notes: CO_{2e} = carbon dioxide equivalent; MT/yr = metric tons per year
Refer to Appendix A for detailed assumptions and modeling output files.
Source: Emissions estimated by Ascent Environmental in 2017.

As shown in Table GHG-12, the highest expected GHG emission of 510 MT CO_2e/year would occur in 2018 and the average over the two years of construction is 446 MT CO_2e/year. Thus, annual GHG would not exceed the PCAPCD threshold of significance during any of the years of construction.

Operational-related emissions would result from energy consumption (electricity and natural gas), mobile-sources (i.e., trip generation), solid waste generation, water consumption, and area sources such as

fireplaces and landscape maintenance equipment. Project operational emissions were estimated for the buildout year 2020 and are shown below in Table GHG-2 by emissions source.

Table GHG-2 Summary of Modeled (Unmitigated) GHG Emissions Associated with Project Operation Activities

GHG Emission Source	CO_{2e} (MT/yr)
Area (98% gas fireplaces)	160
Energy	
Natural Gas	254
Electricity	233
Mobile	1716
Waste	103
Water	31
Total	**2,951 (5.2 MT CO_{2e} per capita)**
De Minimis Threshold	*1,100*
Efficiency Matrix Threshold	*4.5 MT CO_{2e} per capita*
Exceeds Thresholds of Significance?	Yes

Notes: CO_{2e} = carbon dioxide equivalent; MT/yr = metric tons per year. Per capita emissions based on a project population of 569 residents, default values in CalEEMod. Refer to Appendix A for detailed assumptions and modeling output files.
Source: Emissions estimated by Ascent Environmental in 2017.

As shown above in Table GHG-2, operational GHG emissions would exceed the PCAPCD threshold of 4.5 MT CO2e/year per capita for urban residential projects. Annual GHG emissions would need to be reduced by a total of 375 MT CO2e/year to comply with applicable thresholds of significance.

Mitigation Measure GHG-1

The following onsite GHG reduction measures are recommended to be incorporated into the project design and shall be implemented to the extent feasible

- Exceed 2016 Title 24 Energy Standards by five percent
- No woodstoves or natural gas fireplaces shall be installed in any of the units (see note below)
  - This measure results in a 5.3 percent reduction in total GHG emissions
- Install High Efficiency Lighting (i.e., light emitting diodes)
- Install EPA-Certified Energy Star Rated Home Appliances (fans, refrigerators, cloth washers, dishwashers).
- Install low-flow bathroom and kitchen faucets (above current State and Federal requirements)
- Install low-flow toilet and shower heads (above current State and Federal requirements)
- Reduce turf area and use water-efficient irrigation systems (i.e., smart sprinkler meters) and landscaping techniques/design

- The above measures, excluding the hearth measure, result in a 0.7 percent reduction in total GHG emissions

- Provide onsite solar to the extent technically feasible. For rooftop solar systems to be considered feasible the following criteria shall be evaluated when determining which dwelling units would be good candidates for installing solar systems.

  - Rooftop solar system sizing would need to be adequate to supply all or portions of each buildings energy needs.
  - Available roof size and slope shall be evaluated for appropriate system size and type
  - Building orientation (e.g., south, north, west, east) shall be considered to maximize solar system efficiency
  - Sun exposure must be adequate and not overly shaded to maximize solar system efficiency

Prior to the issuance of any building permits, the above measures and total achieved GHG emissions reductions shall be verified by a qualified energy consultant and submitted to the City of Rocklin as a part of the Title 24 Compliance Report process. All building/site plans submitted during the Title 24 compliance process shall incorporate above measures as appropriate. For purposes of calculating GHG emissions reductions, the mitigation requirement of 375 MT CO2e/year is equivalent to 1,646 MWh/year of electricity for a project with no hearths and 2,830 MWh/year of electricity for a project with hearths.

Mitigation Measure GHG- 2

Implementation of the measures identified under Mitigation Measure GHG-1 would reduce GHG emissions, to the extent feasible with onsite measures, but may not reduce all GHG emissions necessary to meet the efficiency metric; therefore, additional mitigation through the purchase of carbon offsets is recommended.

To the degree a project relies on GHG mitigation measures, PCAPCD and CARB recommend that lead agencies prioritize on-site design features and direct investments in GHG reductions in the vicinity of the project, to help provide potential air quality and economic co-benefits locally. For example, direct investment in a local building retrofit program can pay for cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting, energy efficient appliances, energy efficient windows, insulation, and water conservation measures for homes within the geographic area of the project. Other examples of local direct investments include financing installation of regional electric vehicle (EV) charging stations, paying for electrification of public school buses, and investing in local urban forests. However, it is critical that any such investments in actions to reduce GHG emissions are real and quantifiable. Where further project design or regional investments are infeasible or not proven to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits issued by a recognized and reputable accredited carbon registry.

The CEQA Guidelines recommend several options for mitigating GHG emissions. Section 15126.4(C)(3) of the Guidelines states that measures to mitigate the significant effects of GHG emissions may include “off-site measures, including offsets that are not otherwise required…” Through the purchase of GHG credits through voluntary participation in the Cap-and-Trade program or an approved registry, GHG emissions may be reduced at the project level. GHG reductions must meet the following criteria:

- Real—represent reductions actually achieved (not based on maximum permit levels),
- Additional/Surplus—not already planned or required by regulation or policy (i.e., not double counted),
- Quantifiable—readily accounted for through process information and other reliable data,
- Enforceable—acquired through legally binding commitments/agreements,
- Validated—verified through accurate means by a reliable third party, and
- Permanent—will remain as GHG reductions in perpetuity.

CARB has established a Cap-and-Trade registry that identifies qualified providers and AB 32 projects. Potential offset programs could include the following (Santa Barbara County Air Pollution Control District [SBCAQMD] 2015):

- The California Air Pollution Control Officers Association GHG Reduction Exchange (CAPCOA GHG Rx);
- Climate Action Reserve (CAR);
- American Carbon Registry (ACR); or
- The "Voluntary" Carbon Market.

CAR is an approved Offset Project Registry (OPR), North American-based offsets program that provides high quality standards for quantifying GHG emissions offsets and registers credits for GHG emissions reduction or removals. One offset credit, or a Climate Reserve Tonne (CRT), is measured as 1 MT CO_2e. The "Voluntary" carbon market is composed of various international companies (e.g., Terrapass, Carbonfund) that oversee certified programs that use approved protocols to verify the legitimacy of the carbon offsets they provide. According to a 2015 report conducted by Forest Trends, the cost per 1 MT CO_2e averaged $3.80 in 2014, compared to the historical average price of approximately $5.80 per MT CO_2e. By comparison, the price per 1 MT CO_2e offset through the California Cap-and-Trade Program averaged $12.70 in 2015 (SBCAQMD 2015).

Prior to the issuance of building permits, the applicant shall provide evidence to the City of Rocklin that they have obtained, or entered into an agreement to obtain, carbon credits in the amount up to375 MT CO_2e. Evidence shall consist of documentation from a County-approved, third-party verifier that the carbon credits have been obtained and meet the requirements stated herein. The amount of GHG credits may be reduced at the time of building permit issuance if the applicant can demonstrate with substantial evidence that onsite reductions were achieved. Evidence shall be based on calculations provided in the Title 24 Compliance Report as required by Mitigation Measure GHG-1

Purchases of offsets would occur once and remain effective throughout the lifetime of the project (i.e., 20 years per PCAPCD guidance). In order for an offset to be considered viable, it must exhibit "permanence." To adequately reduce emissions of GHGs, carbon offsets must be able to demonstrate the ability to counterbalance GHG emissions over the lifespan of a project or "in perpetuity." For example, the purchase of a carbon offset generated by a reforestation project would entail the replanting or maintenance of carbon sequestering trees, which would continue to sequester carbon over several years, decades, or centuries (Forest Trends 2015). It is important to note that the offsets purchased must offer an equivalent GHG reduction benefit annually, i.e., 375 MT CO_2e or more GHGs reduced annually as opposed to a one-time reduction.

Significance after Mitigation

Implementation of Mitigation Measure GHG-1 and/or GHG-2, can achieve the necessary project-GHG reduction (i.e., 12.7 percent total project reduction in annual GHG emissions) bringing total project emissions to 2,576 MT CO2e/year or 4.5 MT CO_2e/year per capita. The project would not exceed applicable PCAPCD thresholds of significance established for purposes of meeting California GHG reduction targets set for 2020. The project would not result in substantial GHG emissions or conflict with an applicable plan (i.e., State Scoping Plan) or policy in place for the purpose of reducing GHG emissions.

5 REFERENCES

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Appendix A

Air Quality, Greenhouse Gas, and Health Risk Screening Analysis

Sierra Pines, Construction

Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage from project scope

Construction Phase - Construction phase lengths were adjusted so that project construction would start January 1, 2018 and be completed December 31, 2019. Default CalEEmod figures were used and decreased proportionally by a factor of 0.91 an then rounded up to a whole number of days.

Vehicle Trips - Construction only

Land Use Change - Construction only

Construction Off-road Equipment Mitigation - Construction only

Mobile Land Use Mitigation - Construction only

Sierra Pines, Construction - Placer-Sacramento County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	35.00	32.00
tblConstructionPhase	NumDays	440.00	400.00
tblConstructionPhase	NumDays	45.00	41.00
tblConstructionPhase	NumDays	35.00	32.00
tblConstructionPhase	NumDays	20.00	19.00
tblConstructionPhase	PhaseEndDate	12/31/2017	12/27/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	10/2/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	3/22/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	11/14/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	1/25/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	11/14/2019
tblConstructionPhase	PhaseStartDate	1/1/2018	3/22/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	1/25/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	10/2/2019
tblGrading	AcresOfGrading	102.50	112.50
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.4634	4.3680	3.0369	5.6300e-003	0.4306	0.2332	0.6638	0.1892	0.2177	0.4068	0.0000	507.2392	507.2392	0.1106	0.0000	510.0031
2019	2.5392	2.6367	2.2289	4.2600e-003	0.0728	0.1443	0.2172	0.0197	0.1356	0.1553	0.0000	378.8773	378.8773	0.0716	0.0000	380.6674
Maximum	**2.5392**	**4.3680**	**3.0369**	**5.6300e-003**	**0.4306**	**0.2332**	**0.6638**	**0.1892**	**0.2177**	**0.4068**	**0.0000**	**507.2392**	**507.2392**	**0.1106**	**0.0000**	**510.0031**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.4634	4.3680	3.0369	5.6300e-003	0.4306	0.2332	0.6638	0.1892	0.2177	0.4068	0.0000	507.2387	507.2387	0.1106	0.0000	510.0027
2019	2.5392	2.6367	2.2289	4.2600e-003	0.0728	0.1443	0.2172	0.0197	0.1356	0.1553	0.0000	378.8770	378.8770	0.0716	0.0000	380.6671
Maximum	**2.5392**	**4.3680**	**3.0369**	**5.6300e-003**	**0.4306**	**0.2332**	**0.6638**	**0.1892**	**0.2177**	**0.4068**	**0.0000**	**507.2387**	**507.2387**	**0.1106**	**0.0000**	**510.0027**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2018	3-31-2018	1.8967	1.8967
2	4-1-2018	6-30-2018	0.9595	0.9595
3	7-1-2018	9-30-2018	0.9700	0.9700
4	10-1-2018	12-31-2018	0.9729	0.9729
5	1-1-2019	3-31-2019	0.8596	0.8596
6	4-1-2019	6-30-2019	0.8668	0.8668
7	7-1-2019	9-30-2019	0.8763	0.8763
		Highest	1.8967	1.8967

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	14.1547	0.2610	16.8957	0.0280		2.1692	2.1692		2.1692	2.1692	205.5586	88.6219	294.1805	0.1921	0.0162	303.8000
Energy	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	864.0825	864.0825	0.0302	0.0111	868.1558
Mobile	0.6641	4.6634	7.8050	0.0278	2.0018	0.0306	2.0324	0.5385	0.0288	0.5673	0.0000	2,551.8526	2,551.8526	0.1047	0.0000	2,554.4710
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	28.7322	32.8456	0.4238	0.0102	46.4931
Total	**14.8531**	**5.2177**	**24.8256**	**0.0576**	**2.0018**	**2.2235**	**4.2253**	**0.5385**	**2.2218**	**2.7603**	**251.2527**	**3,533.2891**	**3,784.5418**	**3.2082**	**0.0375**	**3,875.9343**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	14.1547	0.2610	16.8957	0.0280		2.1692	2.1692		2.1692	2.1692	205.5586	88.6219	294.1805	0.1921	0.0162	303.8000
Energy	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	864.0825	864.0825	0.0302	0.0111	868.1558
Mobile	0.6641	4.6634	7.8050	0.0278	2.0018	0.0306	2.0324	0.5385	0.0288	0.5673	0.0000	2,551.8526	2,551.8526	0.1047	0.0000	2,554.4710
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	28.7322	32.8456	0.4238	0.0102	46.4931
Total	**14.8531**	**5.2177**	**24.8256**	**0.0576**	**2.0018**	**2.2235**	**4.2253**	**0.5385**	**2.2218**	**2.7603**	**251.2527**	**3,533.2891**	**3,784.5418**	**3.2082**	**0.0375**	**3,875.9343**

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

3.0 Construction Detail

Construction Phase

Sierra Pines, Construction - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/25/2018	5	19	
2	Grading	Grading	1/25/2018	3/22/2018	5	41	
3	Building Construction	Building Construction	3/22/2018	10/2/2019	5	400	
4	Paving	Paving	10/2/2019	11/14/2019	5	32	
5	Architectural Coating	Architectural Coating	11/14/2019	12/27/2019	5	32	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1716	0.0000	0.1716	0.0943	0.0000	0.0943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0434	0.4579	0.2135	3.6000e-004		0.0245	0.0245		0.0225	0.0225	0.0000	33.0219	33.0219	0.0103	0.0000	33.2789
Total	**0.0434**	**0.4579**	**0.2135**	**3.6000e-004**	**0.1716**	**0.0245**	**0.1961**	**0.0943**	**0.0225**	**0.1169**	**0.0000**	**33.0219**	**33.0219**	**0.0103**	**0.0000**	**33.2789**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.3000e-004	5.5500e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2343	1.2343	4.0000e-005	0.0000	1.2352
Total	**7.1000e-004**	**5.3000e-004**	**5.5500e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2343**	**1.2343**	**4.0000e-005**	**0.0000**	**1.2352**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1716	0.0000	0.1716	0.0943	0.0000	0.0943	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0434	0.4579	0.2135	3.6000e-004		0.0245	0.0245		0.0225	0.0225	0.0000	33.0219	33.0219	0.0103	0.0000	33.2789
Total	**0.0434**	**0.4579**	**0.2135**	**3.6000e-004**	**0.1716**	**0.0245**	**0.1961**	**0.0943**	**0.0225**	**0.1169**	**0.0000**	**33.0219**	**33.0219**	**0.0103**	**0.0000**	**33.2789**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.3000e-004	5.5500e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2343	1.2343	4.0000e-005	0.0000	1.2352
Total	**7.1000e-004**	**5.3000e-004**	**5.5500e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2343**	**1.2343**	**4.0000e-005**	**0.0000**	**1.2352**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1831	0.0000	0.1831	0.0743	0.0000	0.0743	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1044	1.2202	0.7193	1.2700e-003		0.0540	0.0540		0.0497	0.0497	0.0000	116.1294	116.1294	0.0362	0.0000	117.0333
Total	**0.1044**	**1.2202**	**0.7193**	**1.2700e-003**	**0.1831**	**0.0540**	**0.2371**	**0.0743**	**0.0497**	**0.1240**	**0.0000**	**116.1294**	**116.1294**	**0.0362**	**0.0000**	**117.0333**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.2800e-003	0.0133	3.0000e-005	3.2200e-003	2.0000e-005	3.2400e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.9594	2.9594	9.0000e-005	0.0000	2.9616
Total	**1.7100e-003**	**1.2800e-003**	**0.0133**	**3.0000e-005**	**3.2200e-003**	**2.0000e-005**	**3.2400e-003**	**8.6000e-004**	**2.0000e-005**	**8.8000e-004**	**0.0000**	**2.9594**	**2.9594**	**9.0000e-005**	**0.0000**	**2.9616**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1831	0.0000	0.1831	0.0743	0.0000	0.0743	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1044	1.2202	0.7193	1.2700e-003		0.0540	0.0540		0.0497	0.0497	0.0000	116.1293	116.1293	0.0362	0.0000	117.0331
Total	**0.1044**	**1.2202**	**0.7193**	**1.2700e-003**	**0.1831**	**0.0540**	**0.2371**	**0.0743**	**0.0497**	**0.1240**	**0.0000**	**116.1293**	**116.1293**	**0.0362**	**0.0000**	**117.0331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.2800e-003	0.0133	3.0000e-005	3.2200e-003	2.0000e-005	3.2400e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.9594	2.9594	9.0000e-005	0.0000	2.9616
Total	**1.7100e-003**	**1.2800e-003**	**0.0133**	**3.0000e-005**	**3.2200e-003**	**2.0000e-005**	**3.2400e-003**	**8.6000e-004**	**2.0000e-005**	**8.8000e-004**	**0.0000**	**2.9594**	**2.9594**	**9.0000e-005**	**0.0000**	**2.9616**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2720	2.3741	1.7844	2.7300e-003		0.1522	0.1522		0.1431	0.1431	0.0000	241.3337	241.3337	0.0591	0.0000	242.8119
Total	**0.2720**	**2.3741**	**1.7844**	**2.7300e-003**		**0.1522**	**0.1522**		**0.1431**	**0.1431**	**0.0000**	**241.3337**	**241.3337**	**0.0591**	**0.0000**	**242.8119**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0107	0.2912	0.0637	6.3000e-004	0.0139	2.0500e-003	0.0160	4.0300e-003	1.9600e-003	5.9900e-003	0.0000	59.8113	59.8113	3.2900e-003	0.0000	59.8935
Worker	0.0306	0.0228	0.2371	5.8000e-004	0.0574	3.9000e-004	0.0578	0.0153	3.6000e-004	0.0156	0.0000	52.7492	52.7492	1.5800e-003	0.0000	52.7887
Total	**0.0413**	**0.3140**	**0.3008**	**1.2100e-003**	**0.0713**	**2.4400e-003**	**0.0738**	**0.0193**	**2.3200e-003**	**0.0216**	**0.0000**	**112.5605**	**112.5605**	**4.8700e-003**	**0.0000**	**112.6823**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2720	2.3741	1.7844	2.7300e-003		0.1522	0.1522		0.1431	0.1431	0.0000	241.3335	241.3335	0.0591	0.0000	242.8116
Total	**0.2720**	**2.3741**	**1.7844**	**2.7300e-003**		**0.1522**	**0.1522**		**0.1431**	**0.1431**	**0.0000**	**241.3335**	**241.3335**	**0.0591**	**0.0000**	**242.8116**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0107	0.2912	0.0637	6.3000e-004	0.0139	2.0500e-003	0.0160	4.0300e-003	1.9600e-003	5.9900e-003	0.0000	59.8113	59.8113	3.2900e-003	0.0000	59.8935
Worker	0.0306	0.0228	0.2371	5.8000e-004	0.0574	3.9000e-004	0.0578	0.0153	3.6000e-004	0.0156	0.0000	52.7492	52.7492	1.5800e-003	0.0000	52.7887
Total	**0.0413**	**0.3140**	**0.3008**	**1.2100e-003**	**0.0713**	**2.4400e-003**	**0.0738**	**0.0193**	**2.3200e-003**	**0.0216**	**0.0000**	**112.5605**	**112.5605**	**4.8700e-003**	**0.0000**	**112.6823**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2326	2.0763	1.6906	2.6500e-003		0.1271	0.1271		0.1195	0.1195	0.0000	231.5776	231.5776	0.0564	0.0000	232.9880
Total	**0.2326**	**2.0763**	**1.6906**	**2.6500e-003**		**0.1271**	**0.1271**		**0.1195**	**0.1195**	**0.0000**	**231.5776**	**231.5776**	**0.0564**	**0.0000**	**232.9880**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1600e-003	0.2665	0.0552	6.1000e-004	0.0135	1.6100e-003	0.0151	3.9100e-003	1.5400e-003	5.4500e-003	0.0000	57.5490	57.5490	3.0300e-003	0.0000	57.6248
Worker	0.0268	0.0194	0.2055	5.5000e-004	0.0557	3.8000e-004	0.0561	0.0148	3.5000e-004	0.0152	0.0000	49.6563	49.6563	1.3600e-003	0.0000	49.6904
Total	**0.0360**	**0.2859**	**0.2607**	**1.1600e-003**	**0.0692**	**1.9900e-003**	**0.0712**	**0.0187**	**1.8900e-003**	**0.0206**	**0.0000**	**107.2054**	**107.2054**	**4.3900e-003**	**0.0000**	**107.3151**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2326	2.0763	1.6906	2.6500e-003		0.1271	0.1271		0.1195	0.1195	0.0000	231.5774	231.5774	0.0564	0.0000	232.9877
Total	**0.2326**	**2.0763**	**1.6906**	**2.6500e-003**		**0.1271**	**0.1271**		**0.1195**	**0.1195**	**0.0000**	**231.5774**	**231.5774**	**0.0564**	**0.0000**	**232.9877**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1600e-003	0.2665	0.0552	6.1000e-004	0.0135	1.6100e-003	0.0151	3.9100e-003	1.5400e-003	5.4500e-003	0.0000	57.5490	57.5490	3.0300e-003	0.0000	57.6248
Worker	0.0268	0.0194	0.2055	5.5000e-004	0.0557	3.8000e-004	0.0561	0.0148	3.5000e-004	0.0152	0.0000	49.6563	49.6563	1.3600e-003	0.0000	49.6904
Total	**0.0360**	**0.2859**	**0.2607**	**1.1600e-003**	**0.0692**	**1.9900e-003**	**0.0712**	**0.0187**	**1.8900e-003**	**0.0206**	**0.0000**	**107.2054**	**107.2054**	**4.3900e-003**	**0.0000**	**107.3151**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0233	0.2439	0.2346	3.6000e-004		0.0132	0.0132		0.0121	0.0121	0.0000	32.7603	32.7603	0.0104	0.0000	33.0194
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0233**	**0.2439**	**0.2346**	**3.6000e-004**		**0.0132**	**0.0132**		**0.0121**	**0.0121**	**0.0000**	**32.7603**	**32.7603**	**0.0104**	**0.0000**	**33.0194**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.6000e-004	6.9500e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.6804	1.6804	5.0000e-005	0.0000	1.6816
Total	**9.1000e-004**	**6.6000e-004**	**6.9500e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.6804**	**1.6804**	**5.0000e-005**	**0.0000**	**1.6816**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0233	0.2439	0.2346	3.6000e-004		0.0132	0.0132		0.0121	0.0121	0.0000	32.7603	32.7603	0.0104	0.0000	33.0194
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0233**	**0.2439**	**0.2346**	**3.6000e-004**		**0.0132**	**0.0132**		**0.0121**	**0.0121**	**0.0000**	**32.7603**	**32.7603**	**0.0104**	**0.0000**	**33.0194**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.6000e-004	6.9500e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.9000e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.6804	1.6804	5.0000e-005	0.0000	1.6816
Total	**9.1000e-004**	**6.6000e-004**	**6.9500e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.9000e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.6804**	**1.6804**	**5.0000e-005**	**0.0000**	**1.6816**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2414					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2600e-003	0.0294	0.0295	5.0000e-005		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	4.0852	4.0852	3.5000e-004	0.0000	4.0938
Total	**2.2456**	**0.0294**	**0.0295**	**5.0000e-005**		**2.0600e-003**	**2.0600e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**4.0852**	**4.0852**	**3.5000e-004**	**0.0000**	**4.0938**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	6.1000e-004	6.4900e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5684	1.5684	4.0000e-005	0.0000	1.5695
Total	**8.5000e-004**	**6.1000e-004**	**6.4900e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5684**	**1.5684**	**4.0000e-005**	**0.0000**	**1.5695**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2414					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2600e-003	0.0294	0.0295	5.0000e-005		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	4.0852	4.0852	3.5000e-004	0.0000	4.0938
Total	**2.2456**	**0.0294**	**0.0295**	**5.0000e-005**		**2.0600e-003**	**2.0600e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**4.0852**	**4.0852**	**3.5000e-004**	**0.0000**	**4.0938**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	6.1000e-004	6.4900e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5684	1.5684	4.0000e-005	0.0000	1.5695
Total	**8.5000e-004**	**6.1000e-004**	**6.4900e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5684**	**1.5684**	**4.0000e-005**	**0.0000**	**1.5695**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6641	4.6634	7.8050	0.0278	2.0018	0.0306	2.0324	0.5385	0.0288	0.5673	0.0000	2,551.8526	2,551.8526	0.1047	0.0000	2,554.4710
Unmitigated	0.6641	4.6634	7.8050	0.0278	2.0018	0.0306	2.0324	0.5385	0.0288	0.5673	0.0000	2,551.8526	2,551.8526	0.1047	0.0000	2,554.4710

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	5,385,287	5,385,287
Total	1,894.48	1,972.09	1,715.38	5,385,287	5,385,287

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	524.3906	524.3906	0.0237	4.9100e-003	526.4453
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	524.3906	524.3906	0.0237	4.9100e-003	526.4453
NaturalGas Mitigated	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.6919	339.6919	6.5100e-003	6.2300e-003	341.7105
NaturalGas Unmitigated	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.6919	339.6919	6.5100e-003	6.2300e-003	341.7105

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	6.36559e+006	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.6919	339.6919	6.5100e-003	6.2300e-003	341.7105
Total		**0.0343**	**0.2933**	**0.1248**	**1.8700e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**339.6919**	**339.6919**	**6.5100e-003**	**6.2300e-003**	**341.7105**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	6.36559e+006	0.0343	0.2933	0.1248	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	339.6919	339.6919	6.5100e-003	6.2300e-003	341.7105
Total		**0.0343**	**0.2933**	**0.1248**	**1.8700e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**339.6919**	**339.6919**	**6.5100e-003**	**6.2300e-003**	**341.7105**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.80258e+006	524.3906	0.0237	4.9100e-003	526.4453
Total		**524.3906**	**0.0237**	**4.9100e-003**	**526.4453**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.80258e+006	524.3906	0.0237	4.9100e-003	526.4453
Total		**524.3906**	**0.0237**	**4.9100e-003**	**526.4453**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	14.1547	0.2610	16.8957	0.0280		2.1692	2.1692		2.1692	2.1692	205.5586	88.6219	294.1805	0.1921	0.0162	303.8000
Unmitigated	14.1547	0.2610	16.8957	0.0280		2.1692	2.1692		2.1692	2.1692	205.5586	88.6219	294.1805	0.1921	0.0162	303.8000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	12.4865	0.2439	15.4132	0.0279		2.1611	2.1611		2.1611	2.1611	205.5586	86.2083	291.7669	0.1897	0.0162	301.3276
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**14.1547**	**0.2610**	**16.8957**	**0.0280**		**2.1692**	**2.1692**		**2.1692**	**2.1692**	**205.5586**	**88.6219**	**294.1805**	**0.1921**	**0.0162**	**303.8000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	12.4865	0.2439	15.4132	0.0279		2.1611	2.1611		2.1611	2.1611	205.5586	86.2083	291.7669	0.1897	0.0162	301.3276
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**14.1547**	**0.2610**	**16.8957**	**0.0280**		**2.1692**	**2.1692**		**2.1692**	**2.1692**	**205.5586**	**88.6219**	**294.1805**	**0.1921**	**0.0162**	**303.8000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.8456	0.4238	0.0102	46.4931
Unmitigated	32.8456	0.4238	0.0102	46.4931

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	32.8456	0.4238	0.0102	46.4931
Total		**32.8456**	**0.4238**	**0.0102**	**46.4931**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	32.8456	0.4238	0.0102	46.4931
Total		**32.8456**	**0.4238**	**0.0102**	**46.4931**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.5807	2.4574	0.0000	103.0144
Unmitigated	41.5807	2.4574	0.0000	103.0144

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sierra Pines, Construction

Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage from project scope

Construction Phase - Construction phase lengths were adjusted so that project construction would start January 1, 2018 and be completed December 31, 2019. Default CalEEmod figures were used and decreased proportionally by a factor of 0.91 an then rounded up to a whole number of days.

Vehicle Trips - Construction only

Land Use Change - Construction only

Construction Off-road Equipment Mitigation - Construction only

Mobile Land Use Mitigation - Construction only

Sierra Pines, Construction - Placer-Sacramento County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	35.00	32.00
tblConstructionPhase	NumDays	440.00	400.00
tblConstructionPhase	NumDays	45.00	41.00
tblConstructionPhase	NumDays	35.00	32.00
tblConstructionPhase	NumDays	20.00	19.00
tblConstructionPhase	PhaseEndDate	12/31/2017	12/27/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	10/2/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	3/22/2018
tblConstructionPhase	PhaseEndDate	12/31/2017	11/14/2019
tblConstructionPhase	PhaseEndDate	12/31/2017	1/25/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	11/14/2019
tblConstructionPhase	PhaseStartDate	1/1/2018	3/22/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	1/25/2018
tblConstructionPhase	PhaseStartDate	1/1/2018	10/2/2019
tblGrading	AcresOfGrading	102.50	112.50
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.8305	107.8248	58.9442	0.1034	27.3104	5.2127	32.5231	13.6379	4.7957	18.4336	0.0000	10,407.3077	10,407.3077	3.1466	0.0000	10,485.9734
2019	141.9280	39.1922	35.1748	0.0633	0.8569	2.1353	2.9922	0.2305	1.9911	2.2216	0.0000	6,237.4551	6,237.4551	1.3975	0.0000	6,272.3923
Maximum	**141.9280**	**107.8248**	**58.9442**	**0.1034**	**27.3104**	**5.2127**	**32.5231**	**13.6379**	**4.7957**	**18.4336**	**0.0000**	**10,407.3077**	**10,407.3077**	**3.1466**	**0.0000**	**10,485.9734**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.8305	107.8248	58.9442	0.1034	27.3104	5.2127	32.5231	13.6379	4.7957	18.4336	0.0000	10,407.3077	10,407.3077	3.1466	0.0000	10,485.9734
2019	141.9280	39.1922	35.1748	0.0633	0.8569	2.1353	2.9922	0.2305	1.9911	2.2216	0.0000	6,237.4551	6,237.4551	1.3975	0.0000	6,272.3923
Maximum	**141.9280**	**107.8248**	**58.9442**	**0.1034**	**27.3104**	**5.2127**	**32.5231**	**13.6379**	**4.7957**	**18.4336**	**0.0000**	**10,407.3077**	**10,407.3077**	**3.1466**	**0.0000**	**10,485.9734**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	313.9438	6.1380	392.4045	0.6820		52.7999	52.7999		52.7999	52.7999	5,526.5744	2,347.3266	7,873.9010	5.1289	0.4347	8,131.6671
Energy	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528
Mobile	4.5582	25.9942	48.2309	0.1707	12.0578	0.1753	12.2331	3.2313	0.1654	3.3968		17,276.6050	17,276.6050	0.6662		17,293.2586
Total	**318.6901**	**33.7394**	**441.3193**	**0.8629**	**12.0578**	**53.1051**	**65.1629**	**3.2313**	**53.0952**	**56.3265**	**5,526.5744**	**21,675.6918**	**27,202.2663**	**5.8344**	**0.4723**	**27,488.8785**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	313.9438	6.1380	392.4045	0.6820		52.7999	52.7999		52.7999	52.7999	5,526.5744	2,347.3266	7,873.9010	5.1289	0.4347	8,131.6671
Energy	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528
Mobile	4.5582	25.9942	48.2309	0.1707	12.0578	0.1753	12.2331	3.2313	0.1654	3.3968		17,276.6050	17,276.6050	0.6662		17,293.2586
Total	**318.6901**	**33.7394**	**441.3193**	**0.8629**	**12.0578**	**53.1051**	**65.1629**	**3.2313**	**53.0952**	**56.3265**	**5,526.5744**	**21,675.6918**	**27,202.2663**	**5.8344**	**0.4723**	**27,488.8785**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/25/2018	5	19	
2	Grading	Grading	1/25/2018	3/22/2018	5	41	
3	Building Construction	Building Construction	3/22/2018	10/2/2019	5	400	
4	Paving	Paving	10/2/2019	11/14/2019	5	32	
5	Architectural Coating	Architectural Coating	11/14/2019	12/27/2019	5	32	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9320	0.0000	8.9320	3.6244	0.0000	3.6244			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.9320**	**2.6337**	**11.5657**	**3.6244**	**2.4230**	**6.0475**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9320	0.0000	8.9320	3.6244	0.0000	3.6244			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.9320**	**2.6337**	**11.5657**	**3.6244**	**2.4230**	**6.0475**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4544**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0636	0.0362	0.4889	1.2700e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		126.8496	126.8496	3.4500e-003		126.9358
Total	**0.0636**	**0.0362**	**0.4889**	**1.2700e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**126.8496**	**126.8496**	**3.4500e-003**		**126.9358**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4544**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0636	0.0362	0.4889	1.2700e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		126.8496	126.8496	3.4500e-003		126.9358
Total	**0.0636**	**0.0362**	**0.4889**	**1.2700e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**126.8496**	**126.8496**	**3.4500e-003**		**126.9358**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	140.0842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**140.3506**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0338	0.4563	1.1900e-003	0.1150	7.5000e-004	0.1158	0.0305	6.9000e-004	0.0312		118.3930	118.3930	3.2200e-003		118.4734
Total	**0.0594**	**0.0338**	**0.4563**	**1.1900e-003**	**0.1150**	**7.5000e-004**	**0.1158**	**0.0305**	**6.9000e-004**	**0.0312**		**118.3930**	**118.3930**	**3.2200e-003**		**118.4734**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	140.0842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**140.3506**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0594	0.0338	0.4563	1.1900e-003	0.1150	7.5000e-004	0.1158	0.0305	6.9000e-004	0.0312		118.3930	118.3930	3.2200e-003		118.4734
Total	**0.0594**	**0.0338**	**0.4563**	**1.1900e-003**	**0.1150**	**7.5000e-004**	**0.1158**	**0.0305**	**6.9000e-004**	**0.0312**		**118.3930**	**118.3930**	**3.2200e-003**		**118.4734**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.5582	25.9942	48.2309	0.1707	12.0578	0.1753	12.2331	3.2313	0.1654	3.3968		17,276.6050	17,276.6050	0.6662		17,293.2586
Unmitigated	4.5582	25.9942	48.2309	0.1707	12.0578	0.1753	12.2331	3.2313	0.1654	3.3968		17,276.6050	17,276.6050	0.6662		17,293.2586

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	5,385,287	5,385,287
Total	1,894.48	1,972.09	1,715.38	5,385,287	5,385,287

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528
NaturalGas Unmitigated	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	17440	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528
Total		**0.1881**	**1.6072**	**0.6839**	**0.0103**		**0.1299**	**0.1299**		**0.1299**	**0.1299**		**2,051.7602**	**2,051.7602**	**0.0393**	**0.0376**	**2,063.9528**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	17.44	0.1881	1.6072	0.6839	0.0103		0.1299	0.1299		0.1299	0.1299		2,051.7602	2,051.7602	0.0393	0.0376	2,063.9528
Total		**0.1881**	**1.6072**	**0.6839**	**0.0103**		**0.1299**	**0.1299**		**0.1299**	**0.1299**		**2,051.7602**	**2,051.7602**	**0.0393**	**0.0376**	**2,063.9528**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	313.9438	6.1380	392.4045	0.6820		52.7999	52.7999		52.7999	52.7999	5,526.5744	2,347.3266	7,873.9010	5.1289	0.4347	8,131.6671
Unmitigated	313.9438	6.1380	392.4045	0.6820		52.7999	52.7999		52.7999	52.7999	5,526.5744	2,347.3266	7,873.9010	5.1289	0.4347	8,131.6671

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	304.5486	5.9475	375.9322	0.6811		52.7093	52.7093		52.7093	52.7093	5,526.5744	2,317.7647	7,844.3391	5.1001	0.4347	8,101.3845
Landscaping	0.5016	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906		29.5619	29.5619	0.0288		30.2826
Total	**313.9438**	**6.1380**	**392.4045**	**0.6820**		**52.7999**	**52.7999**		**52.7999**	**52.7999**	**5,526.5744**	**2,347.3266**	**7,873.9010**	**5.1289**	**0.4347**	**8,131.6671**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	304.5486	5.9475	375.9322	0.6811		52.7093	52.7093		52.7093	52.7093	5,526.5744	2,317.7647	7,844.3391	5.1001	0.4347	8,101.3845
Landscaping	0.5016	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906		29.5619	29.5619	0.0288		30.2826
Total	**313.9438**	**6.1380**	**392.4045**	**0.6820**		**52.7999**	**52.7999**		**52.7999**	**52.7999**	**5,526.5744**	**2,347.3266**	**7,873.9010**	**5.1289**	**0.4347**	**8,131.6671**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction ROG Adjustment

Construction Activities	# of Days (CalEEMod default)
Site Preparation	20
Grading	45
Building Const.	440
Paving	35
Arch. Coating	35

Adjusted Arch. Coating Days *(based on 2/3 building construction days plus paving and arch. coating days)*
360.4

ROG output from CalEEMod (lb/day)	141.928
Net ROG output	4967.48
Adjusted ROG (lb/day)	**13.7832**

CalEEMod Construction Phase Length Adjustment

Sum of CalEEMod Default Construction Days	575
# of Weekdays in Two Years	522
Adjustment Factor	0.90782609

Construction Activities	# of Days (CalEEMod default)	**Adjusted # of Construction Days**
Site Preparation	20	**18.16**
Grading	45	**40.85**
Building Const.	440	**399.44**
Paving	35	**31.77**
Arch. Coating	35	**31.77**

CalEEMod VMT Calculator (MITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the MITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

Daily VMT Provided by Traffic Study **12,915**

Annual VMT **4,481,505**

Trip Type

CalEEMod defaults based on land uses inputted

Land Use	Miles			Trip %			Trip Purpose		
	H-w or C-W	H-S or C-C	H-O or C-O	H-w or C-W	H-S or C-C	H-O or C-O	Primary	Diverted	Pass-by
Single Family Home	8.00	6.76	7.00	42.6%	21.0%	36.4%	86.0%	11.0%	3.0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
Single Family Home	1894.48	1972.09	1715.38	**13159.87**

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
Single Family Home								
H-w or C-W	86.0%	8.00	11.0%	0.25	8	3.0%	0.1	7.1
H-S or C-C	86.0%	6.76	11.0%	0.25	6.76	3.0%	0.1	6.0
H-O or C-O	86.0%	7	11.0%	0.25	7	3.0%	0.1	6.2

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table

Single Family Home				
H-w or C-W	5,606	7.1	39,820	
H-S or C-C	2,764	6.0	16,588	
H-O or C-O	4,790	6.2	29,773	
Total VMT			86,182	4,481,461

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	86,181.95			
Weeks per Year CalEEMod Uses for Annual VMT	52.00		52.0000	52.14285714
Calculated Annual VMT	**4,481,461**	(43.66)		

CalEEMod VMT Calculator (MITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the MITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

Daily VMT Provided by Traffic Study **9,322**

Annual VMT **3,234,734**

Trip Type

CalEEMod defaults based on land uses inputted

Land Use	Miles			Trip %			Trip Purpose		
	H-w or C-W	H-S or C-C	H-O or C-O	H-w or C-W	H-S or C-C	H-O or C-O	Primary	Diverted	Pass-by
Single Family Home	4.51	5.00	6.46	42.6%	21.0%	36.4%	86.0%	11.0%	3.0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
Single Family Home	1894.48	1972.09	1715.38	**13159.87**

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
Single Family Home								
H-w or C-W	86.0%	4.51	11.0%	0.25	4.51	3.0%	0.1	4.0
H-S or C-C	86.0%	5	11.0%	0.25	5	3.0%	0.1	4.4
H-O or C-O	86.0%	6.46	11.0%	0.25	6.46	3.0%	0.1	5.7

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table

Single Family Home				
H-w or C-W	5,606	4.0	22,456	
H-S or C-C	2,764	4.4	12,272	
H-O or C-O	4,790	5.7	27,478	
Total VMT			62,205	3,234,678

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	62,205.34			
Weeks per Year CalEEMod Uses for Annual VMT	52.00		52.0000	52.14285714
Calculated Annual VMT	**3,234,678**	(56.31)		

Sierra Pines Operational

Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Sierra Pines Operational - Placer-Sacramento County, Summer

Project Characteristics - PG&E CO2 intensity factor updated for 2020. Source: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Land Use - Land use from project scope.

Vehicle Trips - Adjusted trip lengths to match traffic study VMT.

Woodstoves - Assumed all home have gas fireplaces.

Energy Use - Residential energy adjusted for 2016 Title 24 standards (28% reduction).

Construction Phase -

Off-road Equipment -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	768.93	553.63
tblEnergyUse	T24NG	29,300.87	21,096.63
tblFireplaces	NumberGas	109.45	199.00
tblFireplaces	NumberNoFireplace	19.90	0.00
tblFireplaces	NumberWood	69.65	0.00
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	HO_TL	7.50	7.00
tblVehicleTrips	HS_TL	7.30	6.76
tblVehicleTrips	HW_TL	10.80	8.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.1836	59.5767	35.8149	0.0638	18.2141	2.6348	20.7920	9.9699	2.4240	12.3416	0.0000	6,418.7734	6,418.7734	1.9492	0.0000	6,467.5019
2019	2.7574	23.9120	20.0211	0.0393	0.7337	1.3099	2.0436	0.1978	1.2318	1.4296	0.0000	3,853.6030	3,853.6030	0.6800	0.0000	3,870.6018
2020	128.3735	21.8003	19.4094	0.0390	0.7337	1.1316	1.8653	0.1978	1.0641	1.2620	0.0000	3,790.6118	3,790.6118	0.7171	0.0000	3,807.2837
Maximum	**128.3735**	**59.5767**	**35.8149**	**0.0638**	**18.2141**	**2.6348**	**20.7920**	**9.9699**	**2.4240**	**12.3416**	**0.0000**	**6,418.7734**	**6,418.7734**	**1.9492**	**0.0000**	**6,467.5019**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.1836	59.5767	35.8149	0.0638	18.2141	2.6348	20.7920	9.9699	2.4240	12.3416	0.0000	6,418.7734	6,418.7734	1.9492	0.0000	6,467.5019
2019	2.7574	23.9120	20.0211	0.0393	0.7337	1.3099	2.0436	0.1978	1.2318	1.4296	0.0000	3,853.6030	3,853.6030	0.6800	0.0000	3,870.6018
2020	128.3735	21.8003	19.4094	0.0390	0.7337	1.1316	1.8653	0.1978	1.0641	1.2620	0.0000	3,790.6118	3,790.6118	0.7171	0.0000	3,807.2837
Maximum	**128.3735**	**59.5767**	**35.8149**	**0.0638**	**18.2141**	**2.6348**	**20.7920**	**9.9699**	**2.4240**	**12.3416**	**0.0000**	**6,418.7734**	**6,418.7734**	**1.9492**	**0.0000**	**6,467.5019**

Sierra Pines Operational - Placer-Sacramento County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.7815	3.4916	17.8770	0.0219		0.3575	0.3575		0.3575	0.3575	0.0000	4,243.6796	4,243.6796	0.1096	0.0773	4,269.4426
Energy	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908
Mobile	4.2904	23.7450	41.6314	0.1448	10.0341	0.1487	10.1829	2.6890	0.1403	2.8293		14,664.3095	14,664.3095	0.5996		14,679.2986
Total	**14.2118**	**28.4315**	**60.0170**	**0.1744**	**10.0341**	**0.6028**	**10.6369**	**2.6890**	**0.5944**	**3.2834**	**0.0000**	**20,433.5144**	**20,433.5144**	**0.7384**	**0.1052**	**20,483.3320**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.3952	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906	0.0000	29.5619	29.5619	0.0288	0.0000	30.2826
Energy	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
Mobile	4.2904	23.7450	41.6314	0.1448	10.0341	0.1487	10.1829	2.6890	0.1403	2.8293		14,664.3095	14,664.3095	0.5996		14,679.2986
Total	**13.8193**	**25.0775**	**58.5897**	**0.1530**	**10.0341**	**0.3316**	**10.3658**	**2.6890**	**0.3232**	**3.0122**	**0.0000**	**16,151.7380**	**16,151.7380**	**0.6563**	**0.0267**	**16,176.1110**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.76**	**11.80**	**2.38**	**12.28**	**0.00**	**44.99**	**2.55**	**0.00**	**45.62**	**8.26**	**0.00**	**20.95**	**20.95**	**11.11**	**74.60**	**21.03**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/10/2018	3/9/2018	5	20	
2	Grading	Grading	3/10/2018	5/11/2018	5	45	
3	Building Construction	Building Construction	5/12/2018	1/17/2020	5	440	
4	Paving	Paving	1/18/2020	3/6/2020	5	35	
5	Architectural Coating	Architectural Coating	3/7/2020	4/24/2020	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.4605	0.4481	6.1900e-003	0.1422	0.0108	0.1530	0.0410	0.0103	0.0513		648.1118	648.1118	0.0295		648.8504
Worker	0.2796	0.1537	2.1128	5.9200e-003	0.5915	3.7600e-003	0.5952	0.1569	3.4600e-003	0.1604		589.4370	589.4370	0.0145		589.7989
Total	**0.3551**	**2.6142**	**2.5609**	**0.0121**	**0.7337**	**0.0145**	**0.7482**	**0.1978**	**0.0138**	**0.2116**		**1,237.5488**	**1,237.5488**	**0.0440**		**1,238.6492**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.4605	0.4481	6.1900e-003	0.1422	0.0108	0.1530	0.0410	0.0103	0.0513		648.1118	648.1118	0.0295		648.8504
Worker	0.2796	0.1537	2.1128	5.9200e-003	0.5915	3.7600e-003	0.5952	0.1569	3.4600e-003	0.1604		589.4370	589.4370	0.0145		589.7989
Total	**0.3551**	**2.6142**	**2.5609**	**0.0121**	**0.7337**	**0.0145**	**0.7482**	**0.1978**	**0.0138**	**0.2116**		**1,237.5488**	**1,237.5488**	**0.0440**		**1,238.6492**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3566**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0583	0.0320	0.4402	1.2300e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		122.7994	122.7994	3.0200e-003		122.8748
Total	**0.0583**	**0.0320**	**0.4402**	**1.2300e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**122.7994**	**122.7994**	**3.0200e-003**		**122.8748**

3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3566**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0583	0.0320	0.4402	1.2300e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		122.7994	122.7994	3.0200e-003		122.8748
Total	**0.0583**	**0.0320**	**0.4402**	**1.2300e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**122.7994**	**122.7994**	**3.0200e-003**		**122.8748**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**128.3192**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0299	0.4108	1.1500e-003	0.1150	7.3000e-004	0.1157	0.0305	6.7000e-004	0.0312		114.6127	114.6127	2.8100e-003		114.6831
Total	**0.0544**	**0.0299**	**0.4108**	**1.1500e-003**	**0.1150**	**7.3000e-004**	**0.1157**	**0.0305**	**6.7000e-004**	**0.0312**		**114.6127**	**114.6127**	**2.8100e-003**		**114.6831**

3.6 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**128.3192**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0299	0.4108	1.1500e-003	0.1150	7.3000e-004	0.1157	0.0305	6.7000e-004	0.0312		114.6127	114.6127	2.8100e-003		114.6831
Total	**0.0544**	**0.0299**	**0.4108**	**1.1500e-003**	**0.1150**	**7.3000e-004**	**0.1157**	**0.0305**	**6.7000e-004**	**0.0312**		**114.6127**	**114.6127**	**2.8100e-003**		**114.6831**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2904	23.7450	41.6314	0.1448	10.0341	0.1487	10.1829	2.6890	0.1403	2.8293		14,664.3095	14,664.3095	0.5996		14,679.2986
Unmitigated	4.2904	23.7450	41.6314	0.1448	10.0341	0.1487	10.1829	2.6890	0.1403	2.8293		14,664.3095	14,664.3095	0.5996		14,679.2986

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	4,481,461	4,481,461
Total	1,894.48	1,972.09	1,715.38	4,481,461	4,481,461

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	8.00	6.76	7.00	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
NaturalGas Unmitigated	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12967	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908
Total		**0.1398**	**1.1950**	**0.5085**	**7.6300e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**		**1,525.5253**	**1,525.5253**	**0.0292**	**0.0280**	**1,534.5908**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12.3919	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
Total		**0.1336**	**1.1420**	**0.4860**	**7.2900e-003**		**0.0923**	**0.0923**		**0.0923**	**0.0923**		**1,457.8665**	**1,457.8665**	**0.0279**	**0.0267**	**1,466.5299**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.3952	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906	0.0000	29.5619	29.5619	0.0288	0.0000	30.2826
Unmitigated	9.7815	3.4916	17.8770	0.0219		0.3575	0.3575		0.3575	0.3575	0.0000	4,243.6796	4,243.6796	0.1096	0.0773	4,269.4426

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3863	3.3011	1.4047	0.0211		0.2669	0.2669		0.2669	0.2669	0.0000	4,214.1177	4,214.1177	0.0808	0.0773	4,239.1600
Landscaping	0.5016	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906		29.5619	29.5619	0.0288		30.2826
Total	**9.7815**	**3.4916**	**17.8770**	**0.0219**		**0.3575**	**0.3575**		**0.3575**	**0.3575**	**0.0000**	**4,243.6796**	**4,243.6796**	**0.1096**	**0.0773**	**4,269.4426**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5016	0.1905	16.4723	8.7000e-004		0.0906	0.0906		0.0906	0.0906		29.5619	29.5619	0.0288		30.2826
Total	**9.3952**	**0.1905**	**16.4723**	**8.7000e-004**		**0.0906**	**0.0906**		**0.0906**	**0.0906**	**0.0000**	**29.5619**	**29.5619**	**0.0288**	**0.0000**	**30.2826**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sierra Pines Operational

Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Sierra Pines Operational - Placer-Sacramento County, Summer

Project Characteristics - PG&E CO2 intensity factor updated for 2020. Source: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Land Use - Land use from project scope.

Vehicle Trips - Adjusted trip lengths to match traffic study VMT.

Woodstoves - Assumed all home have gas fireplaces.

Energy Use - Residential energy adjusted for 2016 Title 24 standards (28% reduction).

Construction Phase -

Off-road Equipment -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	768.93	553.63
tblEnergyUse	T24NG	29,300.87	21,096.63
tblFireplaces	NumberGas	109.45	199.00
tblFireplaces	NumberNoFireplace	19.90	0.00
tblFireplaces	NumberWood	69.65	0.00
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2030
tblVehicleTrips	HO_TL	7.50	6.46
tblVehicleTrips	HS_TL	7.30	5.00
tblVehicleTrips	HW_TL	10.80	4.51
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.1836	59.5767	35.8149	0.0638	18.2141	2.6348	20.7920	9.9699	2.4240	12.3416	0.0000	6,418.7734	6,418.7734	1.9492	0.0000	6,467.5019
2019	2.7574	23.9120	20.0211	0.0393	0.7337	1.3099	2.0436	0.1978	1.2318	1.4296	0.0000	3,853.6030	3,853.6030	0.6800	0.0000	3,870.6018
2020	128.3735	21.8003	19.4094	0.0390	0.7337	1.1316	1.8653	0.1978	1.0641	1.2620	0.0000	3,790.6118	3,790.6118	0.7171	0.0000	3,807.2837
Maximum	**128.3735**	**59.5767**	**35.8149**	**0.0638**	**18.2141**	**2.6348**	**20.7920**	**9.9699**	**2.4240**	**12.3416**	**0.0000**	**6,418.7734**	**6,418.7734**	**1.9492**	**0.0000**	**6,467.5019**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.1836	59.5767	35.8149	0.0638	18.2141	2.6348	20.7920	9.9699	2.4240	12.3416	0.0000	6,418.7734	6,418.7734	1.9492	0.0000	6,467.5019
2019	2.7574	23.9120	20.0211	0.0393	0.7337	1.3099	2.0436	0.1978	1.2318	1.4296	0.0000	3,853.6030	3,853.6030	0.6800	0.0000	3,870.6018
2020	128.3735	21.8003	19.4094	0.0390	0.7337	1.1316	1.8653	0.1978	1.0641	1.2620	0.0000	3,790.6118	3,790.6118	0.7171	0.0000	3,807.2837
Maximum	**128.3735**	**59.5767**	**35.8149**	**0.0638**	**18.2141**	**2.6348**	**20.7920**	**9.9699**	**2.4240**	**12.3416**	**0.0000**	**6,418.7734**	**6,418.7734**	**1.9492**	**0.0000**	**6,467.5019**

Sierra Pines Operational - Placer-Sacramento County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.7697	3.4898	17.7791	0.0219		0.3579	0.3579		0.3579	0.3579	0.0000	4,243.6796	4,243.6796	0.1089	0.0773	4,269.4261
Energy	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908
Mobile	3.7024	20.7306	31.1056	0.1084	7.2417	0.1097	7.3514	1.9405	0.1034	2.0439		10,991.9213	10,991.9213	0.4911		11,004.1982
Total	**13.6119**	**25.4154**	**49.3932**	**0.1380**	**7.2417**	**0.5642**	**7.8059**	**1.9405**	**0.5580**	**2.4984**	**0.0000**	**16,761.1262**	**16,761.1262**	**0.6293**	**0.1052**	**16,808.2150**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.3834	0.1888	16.3744	8.7000e-004		0.0911	0.0911		0.0911	0.0911	0.0000	29.5619	29.5619	0.0282	0.0000	30.2660
Energy	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
Mobile	3.7024	20.7306	31.1056	0.1084	7.2417	0.1097	7.3514	1.9405	0.1034	2.0439		10,991.9213	10,991.9213	0.4911		11,004.1982
Total	**13.2194**	**22.0614**	**47.9659**	**0.1166**	**7.2417**	**0.2931**	**7.5348**	**1.9405**	**0.2868**	**2.2273**	**0.0000**	**12,479.3497**	**12,479.3497**	**0.5472**	**0.0267**	**12,500.9941**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.88**	**13.20**	**2.89**	**15.52**	**0.00**	**48.06**	**3.47**	**0.00**	**48.60**	**10.85**	**0.00**	**25.55**	**25.55**	**13.04**	**74.60**	**25.63**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/10/2018	3/9/2018	5	20	
2	Grading	Grading	3/10/2018	5/11/2018	5	45	
3	Building Construction	Building Construction	5/12/2018	1/17/2020	5	440	
4	Paving	Paving	1/18/2020	3/6/2020	5	35	
5	Architectural Coating	Architectural Coating	3/7/2020	4/24/2020	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**8.6733**	**2.6337**	**11.3071**	**3.5965**	**2.4230**	**6.0195**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.0935**	**0.0549**	**0.7255**	**1.7500e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**9.9000e-004**	**0.0446**		**174.3450**	**174.3450**	**5.1700e-003**		**174.4741**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1032	2.8162	0.5739	6.3000e-003	0.1422	0.0200	0.1622	0.0410	0.0191	0.0601		658.6815	658.6815	0.0338		659.5270
Worker	0.3366	0.1975	2.6119	6.3100e-003	0.5915	3.8800e-003	0.5953	0.1569	3.5800e-003	0.1605		627.6419	627.6419	0.0186		628.1068
Total	**0.4399**	**3.0137**	**3.1858**	**0.0126**	**0.7337**	**0.0239**	**0.7576**	**0.1978**	**0.0227**	**0.2205**		**1,286.3234**	**1,286.3234**	**0.0524**		**1,287.6338**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0910	2.6596	0.5109	6.2400e-003	0.1422	0.0162	0.1585	0.0410	0.0155	0.0565		653.1448	653.1448	0.0321		653.9466
Worker	0.3052	0.1736	2.3465	6.1200e-003	0.5915	3.8400e-003	0.5953	0.1569	3.5400e-003	0.1604		608.8781	608.8781	0.0166		609.2917
Total	**0.3962**	**2.8332**	**2.8573**	**0.0124**	**0.7337**	**0.0201**	**0.7538**	**0.1978**	**0.0191**	**0.2169**		**1,262.0229**	**1,262.0229**	**0.0486**		**1,263.2383**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.4605	0.4481	6.1900e-003	0.1422	0.0108	0.1530	0.0410	0.0103	0.0513		648.1118	648.1118	0.0295		648.8504
Worker	0.2796	0.1537	2.1128	5.9200e-003	0.5915	3.7600e-003	0.5952	0.1569	3.4600e-003	0.1604		589.4370	589.4370	0.0145		589.7989
Total	**0.3551**	**2.6142**	**2.5609**	**0.0121**	**0.7337**	**0.0145**	**0.7482**	**0.1978**	**0.0138**	**0.2116**		**1,237.5488**	**1,237.5488**	**0.0440**		**1,238.6492**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.4605	0.4481	6.1900e-003	0.1422	0.0108	0.1530	0.0410	0.0103	0.0513		648.1118	648.1118	0.0295		648.8504
Worker	0.2796	0.1537	2.1128	5.9200e-003	0.5915	3.7600e-003	0.5952	0.1569	3.4600e-003	0.1604		589.4370	589.4370	0.0145		589.7989
Total	**0.3551**	**2.6142**	**2.5609**	**0.0121**	**0.7337**	**0.0145**	**0.7482**	**0.1978**	**0.0138**	**0.2116**		**1,237.5488**	**1,237.5488**	**0.0440**		**1,238.6492**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3566**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0583	0.0320	0.4402	1.2300e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		122.7994	122.7994	3.0200e-003		122.8748
Total	**0.0583**	**0.0320**	**0.4402**	**1.2300e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**122.7994**	**122.7994**	**3.0200e-003**		**122.8748**

3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3566**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0583	0.0320	0.4402	1.2300e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		122.7994	122.7994	3.0200e-003		122.8748
Total	**0.0583**	**0.0320**	**0.4402**	**1.2300e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.2000e-004**	**0.0334**		**122.7994**	**122.7994**	**3.0200e-003**		**122.8748**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**128.3192**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0299	0.4108	1.1500e-003	0.1150	7.3000e-004	0.1157	0.0305	6.7000e-004	0.0312		114.6127	114.6127	2.8100e-003		114.6831
Total	**0.0544**	**0.0299**	**0.4108**	**1.1500e-003**	**0.1150**	**7.3000e-004**	**0.1157**	**0.0305**	**6.7000e-004**	**0.0312**		**114.6127**	**114.6127**	**2.8100e-003**		**114.6831**

3.6 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.0770					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**128.3192**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0299	0.4108	1.1500e-003	0.1150	7.3000e-004	0.1157	0.0305	6.7000e-004	0.0312		114.6127	114.6127	2.8100e-003		114.6831
Total	**0.0544**	**0.0299**	**0.4108**	**1.1500e-003**	**0.1150**	**7.3000e-004**	**0.1157**	**0.0305**	**6.7000e-004**	**0.0312**		**114.6127**	**114.6127**	**2.8100e-003**		**114.6831**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.7024	20.7306	31.1056	0.1084	7.2417	0.1097	7.3514	1.9405	0.1034	2.0439		10,991.9213	10,991.9213	0.4911		11,004.1982
Unmitigated	3.7024	20.7306	31.1056	0.1084	7.2417	0.1097	7.3514	1.9405	0.1034	2.0439		10,991.9213	10,991.9213	0.4911		11,004.1982

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	3,234,678	3,234,678
Total	1,894.48	1,972.09	1,715.38	3,234,678	3,234,678

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	4.51	5.00	6.46	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.523508	0.036306	0.221701	0.109861	0.013225	0.004714	0.035141	0.046527	0.001320	0.001096	0.005187	0.000710	0.000705

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
NaturalGas Unmitigated	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12967	0.1398	1.1950	0.5085	7.6300e-003		0.0966	0.0966		0.0966	0.0966		1,525.5253	1,525.5253	0.0292	0.0280	1,534.5908
Total		**0.1398**	**1.1950**	**0.5085**	**7.6300e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**		**1,525.5253**	**1,525.5253**	**0.0292**	**0.0280**	**1,534.5908**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12.3919	0.1336	1.1420	0.4860	7.2900e-003		0.0923	0.0923		0.0923	0.0923		1,457.8665	1,457.8665	0.0279	0.0267	1,466.5299
Total		**0.1336**	**1.1420**	**0.4860**	**7.2900e-003**		**0.0923**	**0.0923**		**0.0923**	**0.0923**		**1,457.8665**	**1,457.8665**	**0.0279**	**0.0267**	**1,466.5299**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.3834	0.1888	16.3744	8.7000e-004		0.0911	0.0911		0.0911	0.0911	0.0000	29.5619	29.5619	0.0282	0.0000	30.2660
Unmitigated	9.7697	3.4898	17.7791	0.0219		0.3579	0.3579		0.3579	0.3579	0.0000	4,243.6796	4,243.6796	0.1089	0.0773	4,269.4261

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3863	3.3011	1.4047	0.0211		0.2669	0.2669		0.2669	0.2669	0.0000	4,214.1177	4,214.1177	0.0808	0.0773	4,239.1600
Landscaping	0.4898	0.1888	16.3744	8.7000e-004		0.0911	0.0911		0.0911	0.0911		29.5619	29.5619	0.0282		30.2660
Total	**9.7697**	**3.4898**	**17.7791**	**0.0219**		**0.3579**	**0.3579**		**0.3579**	**0.3579**	**0.0000**	**4,243.6796**	**4,243.6796**	**0.1089**	**0.0773**	**4,269.4261**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2281					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.6655					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4898	0.1888	16.3744	8.7000e-004		0.0911	0.0911		0.0911	0.0911		29.5619	29.5619	0.0282		30.2660
Total	**9.3834**	**0.1888**	**16.3744**	**8.7000e-004**		**0.0911**	**0.0911**		**0.0911**	**0.0911**	**0.0000**	**29.5619**	**29.5619**	**0.0282**	**0.0000**	**30.2660**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sierra Pines Operational

Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - adjusted for 2020 RPS

Land Use - based on subdivision map

Vehicle Trips - Adjusted to result in annual VMT that matches traffic study

Woodstoves - NO woodstoves and only natural gas hearth

Energy Use - Adjusteed for 2016 Title 24 (28%)

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Area Mitigation -

Sierra Pines Operational - Placer-Sacramento County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	768.93	553.63
tblEnergyUse	T24NG	29,300.87	21,096.63
tblFireplaces	NumberGas	109.45	199.00
tblFireplaces	NumberNoFireplace	19.90	0.00
tblFireplaces	NumberWood	69.65	0.00
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	HO_TL	7.50	7.00
tblVehicleTrips	HS_TL	7.30	6.76
tblVehicleTrips	HW_TL	10.80	8.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Energy	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	484.0463	484.0463	0.0280	9.4200e-003	487.5530
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	12.9919	17.1053	0.4238	0.0102	30.7528
Total	**2.3283**	**4.6146**	**8.4540**	**0.0259**	**1.6658**	**0.0627**	**1.7285**	**0.4481**	**0.0612**	**0.5093**	**45.6941**	**2,822.8794**	**2,868.5735**	**3.0094**	**0.0225**	**2,950.5252**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6682	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Energy	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	484.0463	484.0463	0.0280	9.4200e-003	487.5530
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	12.9919	17.1053	0.4238	0.0102	30.7528
Total	**2.3125**	**4.4793**	**8.3964**	**0.0250**	**1.6658**	**0.0517**	**1.7176**	**0.4481**	**0.0503**	**0.4984**	**45.6941**	**2,666.1371**	**2,711.8312**	**3.0064**	**0.0197**	**2,792.8514**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.68**	**2.93**	**0.68**	**3.32**	**0.00**	**17.46**	**0.63**	**0.00**	**17.87**	**2.15**	**0.00**	**5.55**	**5.46**	**0.10**	**12.74**	**5.34**

3.0 Construction Detail

Construction Phase

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	3/29/2017	3/28/2017	5	35	
2	Building Construction	Building Construction	3/29/2017	3/28/2017	5	440	
3	Demolition	Demolition	3/29/2017	3/28/2017	5	30	
4	Grading	Grading	3/29/2017	3/28/2017	5	45	
5	Paving	Paving	3/29/2017	3/28/2017	5	35	
6	Site Preparation	Site Preparation	3/29/2017	3/28/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Unmitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	4,481,461	4,481,461
Total	1,894.48	1,972.09	1,715.38	4,481,461	4,481,461

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	8.00	6.76	7.00	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.4784	231.4784	0.0232	4.7900e-003	233.4843
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.4784	231.4784	0.0232	4.7900e-003	233.4843
NaturalGas Mitigated	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
NaturalGas Unmitigated	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.73294e+006	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
Total		**0.0255**	**0.2181**	**0.0928**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**	**0.0000**	**252.5678**	**252.5678**	**4.8400e-003**	**4.6300e-003**	**254.0687**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.73294e+006	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
Total		**0.0255**	**0.2181**	**0.0928**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**	**0.0000**	**252.5678**	**252.5678**	**4.8400e-003**	**4.6300e-003**	**254.0687**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75973e+006	231.4784	0.0232	4.7900e-003	233.4843
Total		**231.4784**	**0.0232**	**4.7900e-003**	**233.4843**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75973e+006	231.4784	0.0232	4.7900e-003	233.4843
Total		**231.4784**	**0.0232**	**4.7900e-003**	**233.4843**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6682	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Unmitigated	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0158	0.1353	0.0576	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7423	156.7423	3.0000e-003	2.8700e-003	157.6738
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6841**	**0.1525**	**1.5401**	**9.4000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**159.1559**	**159.1559**	**5.3500e-003**	**2.8700e-003**	**160.1462**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6682**	**0.0172**	**1.4825**	**8.0000e-005**		**8.1500e-003**	**8.1500e-003**		**8.1500e-003**	**8.1500e-003**	**0.0000**	**2.4136**	**2.4136**	**2.3500e-003**	**0.0000**	**2.4725**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	17.1053	0.4238	0.0102	30.7528
Unmitigated	17.1053	0.4238	0.0102	30.7528

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	17.1053	0.4238	0.0102	30.7528
Total		**17.1053**	**0.4238**	**0.0102**	**30.7528**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	17.1053	0.4238	0.0102	30.7528
Total		**17.1053**	**0.4238**	**0.0102**	**30.7528**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.5807	2.4574	0.0000	103.0144
Unmitigated	41.5807	2.4574	0.0000	103.0144

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sierra Pines Operational

Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - adjusted for 2020 RPS

Land Use - based on subdivision map

Vehicle Trips - Adjusted to result in annual VMT that matches traffic study

Woodstoves - NO woodstoves and only natural gas hearth

Energy Use - Adjusteed for 2016 Title 24 (28%)

Sierra Pines Operational - Placer-Sacramento County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	768.93	553.63
tblEnergyUse	T24NG	29,300.87	21,096.63
tblFireplaces	NumberGas	109.45	199.00
tblFireplaces	NumberNoFireplace	19.90	0.00
tblFireplaces	NumberWood	69.65	0.00
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	HO_TL	7.50	7.00
tblVehicleTrips	HS_TL	7.30	6.76
tblVehicleTrips	HW_TL	10.80	8.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Energy	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	484.0463	484.0463	0.0280	9.4200e-003	487.5530
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	12.9919	17.1053	0.4238	0.0102	30.7528
Total	**2.3283**	**4.6146**	**8.4540**	**0.0259**	**1.6658**	**0.0627**	**1.7285**	**0.4481**	**0.0612**	**0.5093**	**45.6941**	**2,822.8794**	**2,868.5735**	**3.0094**	**0.0225**	**2,950.5252**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Energy	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	484.0463	484.0463	0.0280	9.4200e-003	487.5530
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	12.9919	17.1053	0.4238	0.0102	30.7528
Total	**2.3283**	**4.6146**	**8.4540**	**0.0259**	**1.6658**	**0.0627**	**1.7285**	**0.4481**	**0.0612**	**0.5093**	**45.6941**	**2,822.8794**	**2,868.5735**	**3.0094**	**0.0225**	**2,950.5252**

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

3.0 Construction Detail

Construction Phase

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	3/29/2017	3/28/2017	5	35	
2	Building Construction	Building Construction	3/29/2017	3/28/2017	5	440	
3	Demolition	Demolition	3/29/2017	3/28/2017	5	30	
4	Grading	Grading	3/29/2017	3/28/2017	5	45	
5	Paving	Paving	3/29/2017	3/28/2017	5	35	
6	Site Preparation	Site Preparation	3/29/2017	3/28/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Unmitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	4,481,461	4,481,461
Total	1,894.48	1,972.09	1,715.38	4,481,461	4,481,461

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	8.00	6.76	7.00	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.4784	231.4784	0.0232	4.7900e-003	233.4843
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.4784	231.4784	0.0232	4.7900e-003	233.4843
NaturalGas Mitigated	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
NaturalGas Unmitigated	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.73294e+006	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
Total		**0.0255**	**0.2181**	**0.0928**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**	**0.0000**	**252.5678**	**252.5678**	**4.8400e-003**	**4.6300e-003**	**254.0687**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.73294e+006	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
Total		**0.0255**	**0.2181**	**0.0928**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**	**0.0000**	**252.5678**	**252.5678**	**4.8400e-003**	**4.6300e-003**	**254.0687**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75973e+006	231.4784	0.0232	4.7900e-003	233.4843
Total		**231.4784**	**0.0232**	**4.7900e-003**	**233.4843**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75973e+006	231.4784	0.0232	4.7900e-003	233.4843
Total		**231.4784**	**0.0232**	**4.7900e-003**	**233.4843**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Unmitigated	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0158	0.1353	0.0576	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7423	156.7423	3.0000e-003	2.8700e-003	157.6738
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6841**	**0.1525**	**1.5401**	**9.4000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**159.1559**	**159.1559**	**5.3500e-003**	**2.8700e-003**	**160.1462**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0158	0.1353	0.0576	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7423	156.7423	3.0000e-003	2.8700e-003	157.6738
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6841**	**0.1525**	**1.5401**	**9.4000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**159.1559**	**159.1559**	**5.3500e-003**	**2.8700e-003**	**160.1462**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	17.1053	0.4238	0.0102	30.7528
Unmitigated	17.1053	0.4238	0.0102	30.7528

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	17.1053	0.4238	0.0102	30.7528
Total		**17.1053**	**0.4238**	**0.0102**	**30.7528**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	17.1053	0.4238	0.0102	30.7528
Total		**17.1053**	**0.4238**	**0.0102**	**30.7528**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.5807	2.4574	0.0000	103.0144
Unmitigated	41.5807	2.4574	0.0000	103.0144

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sierra Pines Operational

Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	199.00	Dwelling Unit	26.00	358,200.00	569

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - adjusted for 2020 RPS

Land Use - based on subdivision map

Vehicle Trips - Adjusted to result in annual VMT that matches traffic study

Woodstoves - NO woodstoves and only natural gas hearth

Energy Use - Adjusteed for 2016 Title 24 (28%)

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Area Mitigation -

Sierra Pines Operational - Placer-Sacramento County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	768.93	553.63
tblEnergyUse	T24NG	29,300.87	21,096.63
tblFireplaces	NumberGas	109.45	199.00
tblFireplaces	NumberNoFireplace	19.90	0.00
tblFireplaces	NumberWood	69.65	0.00
tblLandUse	LotAcreage	64.61	26.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	HO_TL	7.50	7.00
tblVehicleTrips	HS_TL	7.30	6.76
tblVehicleTrips	HW_TL	10.80	8.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Energy	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	484.0463	484.0463	0.0280	9.4200e-003	487.5530
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	4.1134	12.9919	17.1053	0.4238	0.0102	30.7528
Total	**2.3283**	**4.6146**	**8.4540**	**0.0259**	**1.6658**	**0.0627**	**1.7285**	**0.4481**	**0.0612**	**0.5093**	**45.6941**	**2,822.8794**	**2,868.5735**	**3.0094**	**0.0225**	**2,950.5252**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Energy	0.0244	0.2084	0.0887	1.3300e-003		0.0169	0.0169		0.0169	0.0169	0.0000	472.1200	472.1200	0.0277	9.2000e-003	475.5539
Mobile	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Waste						0.0000	0.0000		0.0000	0.0000	41.5807	0.0000	41.5807	2.4574	0.0000	103.0144
Water						0.0000	0.0000		0.0000	0.0000	3.2907	10.9166	14.2073	0.3391	8.2100e-003	25.1299
Total	**2.3272**	**4.6049**	**8.4499**	**0.0258**	**1.6658**	**0.0619**	**1.7277**	**0.4481**	**0.0604**	**0.5085**	**44.8714**	**2,808.8778**	**2,853.7492**	**2.9244**	**0.0203**	**2,932.9031**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.05**	**0.21**	**0.05**	**0.23**	**0.00**	**1.24**	**0.05**	**0.00**	**1.27**	**0.15**	**1.80**	**0.50**	**0.52**	**2.82**	**9.99**	**0.60**

3.0 Construction Detail

Construction Phase

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	3/29/2017	3/28/2017	5	35	
2	Building Construction	Building Construction	3/29/2017	3/28/2017	5	440	
3	Demolition	Demolition	3/29/2017	3/28/2017	5	30	
4	Grading	Grading	3/29/2017	3/28/2017	5	45	
5	Paving	Paving	3/29/2017	3/28/2017	5	35	
6	Site Preparation	Site Preparation	3/29/2017	3/28/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 725,355; Residential Outdoor: 241,785; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Sierra Pines Operational - Placer-Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	14.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00		10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588
Unmitigated	0.6187	4.2440	6.8211	0.0236	1.6658	0.0260	1.6918	0.4481	0.0245	0.4726	0.0000	2,166.6853	2,166.6853	0.0949	0.0000	2,169.0588

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,894.48	1,972.09	1715.38	4,481,461	4,481,461
Total	1,894.48	1,972.09	1,715.38	4,481,461	4,481,461

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	8.00	6.76	7.00	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	230.7538	230.7538	0.0231	4.7700e-003	232.7534
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.4784	231.4784	0.0232	4.7900e-003	233.4843
NaturalGas Mitigated	0.0244	0.2084	0.0887	1.3300e-003		0.0169	0.0169		0.0169	0.0169	0.0000	241.3662	241.3662	4.6300e-003	4.4300e-003	242.8005
NaturalGas Unmitigated	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.73294e+006	0.0255	0.2181	0.0928	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	252.5678	252.5678	4.8400e-003	4.6300e-003	254.0687
Total		**0.0255**	**0.2181**	**0.0928**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**	**0.0000**	**252.5678**	**252.5678**	**4.8400e-003**	**4.6300e-003**	**254.0687**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.52303e+006	0.0244	0.2084	0.0887	1.3300e-003		0.0169	0.0169		0.0169	0.0169	0.0000	241.3662	241.3662	4.6300e-003	4.4300e-003	242.8005
Total		**0.0244**	**0.2084**	**0.0887**	**1.3300e-003**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**241.3662**	**241.3662**	**4.6300e-003**	**4.4300e-003**	**242.8005**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75973e+006	231.4784	0.0232	4.7900e-003	233.4843
Total		**231.4784**	**0.0232**	**4.7900e-003**	**233.4843**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.75422e+006	230.7538	0.0231	4.7700e-003	232.7534
Total		**230.7538**	**0.0231**	**4.7700e-003**	**232.7534**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462
Unmitigated	1.6841	0.1525	1.5401	9.4000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	159.1559	159.1559	5.3600e-003	2.8700e-003	160.1462

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0158	0.1353	0.0576	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7423	156.7423	3.0000e-003	2.8700e-003	157.6738
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6841**	**0.1525**	**1.5401**	**9.4000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**159.1559**	**159.1559**	**5.3500e-003**	**2.8700e-003**	**160.1462**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2241					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3990					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0158	0.1353	0.0576	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.7423	156.7423	3.0000e-003	2.8700e-003	157.6738
Landscaping	0.0451	0.0172	1.4825	8.0000e-005		8.1500e-003	8.1500e-003		8.1500e-003	8.1500e-003	0.0000	2.4136	2.4136	2.3500e-003	0.0000	2.4725
Total	**1.6841**	**0.1525**	**1.5401**	**9.4000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**159.1559**	**159.1559**	**5.3500e-003**	**2.8700e-003**	**160.1462**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.2073	0.3391	8.2100e-003	25.1299
Unmitigated	17.1053	0.4238	0.0102	30.7528

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	12.9657 / 8.174	17.1053	0.4238	0.0102	30.7528
Total		**17.1053**	**0.4238**	**0.0102**	**30.7528**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	10.3725 / 7.67538	14.2073	0.3391	8.2100e-003	25.1299
Total		**14.2073**	**0.3391**	**8.2100e-003**	**25.1299**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.5807	2.4574	0.0000	103.0144
Unmitigated	41.5807	2.4574	0.0000	103.0144

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	204.84	41.5807	2.4574	0.0000	103.0144
Total		**41.5807**	**2.4574**	**0.0000**	**103.0144**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Emission Rates for 1 MMgal Gas Station

(Based on CAPCOA's 12/97 HRA Guidelines for GDFs -- Appendix A)

Assumptions:

Annual throughput:	1	million gallons/year	(dispensed evenly from the two tanks)
Gas Station Scenario:		(Phase I & Phase II, with vent valves and an overall efficiency of 90%)	3b
Number of Pump Islands:	1		

		Gasoline	
Tanks		Loading	Breathing
	lb/1000 gal	0.084	0.025
	lb/yr	84	25
	lb/hr	0.00959	0.002854
	g/s - 24hrs	0.00121	0.00036
	g/s - 16 hrs	0.00181	0.00054

Island		Refueling	Spillage
	lb/1000 gal	0.74	0.42
	lb/yr	740	420
	lb/hr	0.08447	0.047945
	g/s - 24hrs	0.01064	0.00604
	g/s - 16 hrs	0.01597	0.00906

Emission Rates for 1 MMgal Gas Station

(Based on CAPCOA's 12/97 HRA Guidelines for GDFs - Appendix D)

Vents (point sources)

Model Run	Source								
V_Load	Loading								
		Stack Dia. (2"):	2	in	0.0508	meters			
		Stack Hieght:	12	ft	3.66	meters			
		Stack Temp.	65	deg F	291	deg K			
		Exit Velocity:		fps	0.000354	m/s			
V_Breath	Breathing								
		Stack Dia. (2"):	2	in	0.0508	meters			
		Stack Hieght:	12	ft	3.66	meters			
		Stack Temp.	60	deg F	289	deg K			
		Exit Velocity:			0.000105	m/s			

Islands (volume sources)

I_Fuel	Refueling									
		Volume:	4	m high	x	32	m lomg	x	16	m wide
		Height of Release:	1	meter						
		Lateral Dimension:	5.26	meter		(length/4.3)				
		Vertical Dimension:	1.86	meter		(height/2.15)				
I_Spill	Spillage									
		Volume:	4	m high	x	32	m lomg	x	16	m wide
		Height of Release:	0	meter						
		Lateral Dimension:	5.26	meter		(length/4.3)				
		Vertical Dimension:	1.86	meter		(height/2.15)				

Common Parameters

Source Type:	
Vent:	Stack
Pump Island	Volume
Dispersion Coef	Urban
Receptor Height	1.8 m
terrain	simple
simple terrain	flat
meteorology	full
automated dis	min: 10' max: 1000'
discrete dist	225

		Neutral Met							
		At Poperty Line (225 Feet)							
		MAX 1 HR UG/M^3							
	V_Load	3.4							
	V_Breath	1.02							
	I_Fuel	18.68		DPM Adjustment Factor					
	I_Spill	10.5							
		33.6		0.000415					
		Annual AVG (xannual)							
		2.688							
		Qhourly							
		0.000306849							
		Annual Avg (GLC)		DPM Adjustment Calc	CR in a Million	old guidance			
		0.000824811		0.00000034	0.3419				
				HARP 2 Output					
				0.00000088	0.882	new guidance (assumed benzene and DPM em			
		Worst Case Met							
Screen Outputs		At Poperty Line (225 Feet)							
		MAX 1 HR UG/M^3							
	V_Load	7.6							
	V_Breath	2.27							
	I_Fuel	37.31		DPM Adjustment Factor					
	I_Spill	21.39							
		68.57		0.000415					
		Annual AVG (xannual)							
		5.4856							
		Qhourly							
		0.00062621							
		Annual Avg (GLC)		DPM Adjustment Calc	CR in a Million	old guidance			
		0.003435138		0.00000142	1.4240				
				HARP 2 Output					
				0.00000340	3.4	new guidance (assumed DPM)			
				0.00000034	0.34	new guidance (assumed benzene)			

issions at equal rate)	

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
DAWSON OIL CARDLOCK - ROCKLIN
PO BOX 360
ROCKLIN, CA 95677

PERMIT NUMBER: VRS-87-16

FACILITY LOCATION:
4325 PACIFIC ST
ROCKLIN, CA 95677

VALID FROM:
8/10/2016 - 8/9/2017

Erik C. White
Air Pollution Control Officer

9/1/2016
Issue Date

PROCESS DESCRIPTION: GAS DISPENSING PERMIT

EQUIPMENT

No.	Equipment	Rating
1	GAS STATION 6 NOZZLES	NOZ- 6
2	PHASE I - OPW EVR SYSTEM - VR-102 SERIES	
3	PHASE II EVR VR-204 WITH ISD AND VAPOR POLISHER	
4	PHASE II - G-70-52 AND G-70-199 SERIES	

TOTAL RATINGS – NOZ- 6 .

OPERATING CONDITIONS

1. The Phase I and Phase II Enhanced Vapor Recovery Systems are subject to the Executive Orders listed in the Equipment descriptions and their associated CARB approved Installation, Operation, and Maintenance Manual and any applicable CARB Approval letters.

2. All components of the Phase I and Phase II vapor recovery systems, including all associated underground plumbing, shall be installed, operated, and maintained in accordance with the California Air Resources Board (CARB) most current Executive Orders and the specifications in the CARB approved Installation, Operation, and Maintenance (IOM) Manual and any applicable CARB Approval letters **and** the Authority to Construct issued for the installation at this site.

3. Only the equipment listed in Exhibit 1 of the Executive Orders, unless exempted in writing by CARB shall be installed and shall be clearly identified by the permanent identification number showing the manufacturer's name and model number as required by the Executive Orders.

4. A copy of the applicable CARB Executive Orders, the corresponding IOMs, and any applicable CARB Approval letters, shall be maintained at this facility as long as the certified Phase I and Phase II systems are installed.

5. Installation, maintenance, and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by technicians certified by the appropriate manufacturer unless otherwise specified in the IOM. Additional certifications may be required in accordance with local district requirements.

6. The Phase II vapor recovery equipment shall be inspected weekly, quarterly, and annually per the procedures identified in the CARB Approved IOM Manual. Only a technician certified by the appropriate manufacturer can service any problems discovered while conducting the Weekly, Quarterly, and Annual inspection/testing. Provided that there are no other local district requirements, an owner/operator can remove and install nozzles, curb hoses, breakaways, flow limiters and whip hoses without a manufacturer's certification.

7. A vapor collection sleeve (VST nozzle) or a vapor collection bellows (EMCO nozzle), shall be installed at the base of the spout.

8. Any nozzle with the following defects must be replaced or repaired according to the CARB Approved IOM. Sheared or bent spouts must be replaced.

    a. VST Nozzle
        i. The nozzle collection sleeve has greater than 18 inches total length of cuts or if greater than 0.4 square inches of material is missing.
        ii. The nozzle face plate has greater than 30% of the material missing or greater than 2.5 inches of the accumulated faceplate circumference is missing.

    b. EMCO Nozzle
        iii. Greater than 0.4 square inches of boot face material is missing (e.g. a triangular or similar shape in which greater than 7/16 inches of the boot face circumference is missing (accumulated).
        iv. A cut across seven (7) consecutive bellows convolutions.
        v. A 360 degree cut around the bellows convolutions.

9. Any nozzle with a defective vapor valve shall be immediately removed from service. Verification of the integrity of the vapor valve can be performed on installed nozzles using the nozzle bag test procedure.

10. The maximum length of the hose assembly, including the curb hose, whip hose, and breakaway, shall be no more than fifteen (15) feet.

11. Any hose configuration is allowed when installed in accordance with IOM Section 8.

12. Any hose with a visible opening is considered a defect and must be replaced.

13. Testing is required after reconnecting the breakaway to ensure proper operation and no observed leaks. The procedure for reconnecting the breakaway and fueling point testing after a drive-off shall be conducted to verify that the breakaway, hose and nozzle are operating properly after a drive-off.

14. No flow limiters are allowed for this system.

15. Security seal tags must be installed on the vapor polisher. If for any reason the seal tags are damaged or missing, the district may require that testing covered by Exhibit 11 and Exhibit 12, of Executive Order VR-204, be conducted and passed prior to installing new security seal tags.

16. The carbon type, for the Veeder-Root Vapor Polisher, shall be BAX G1500 manufactured by MeadWestvaco.

17. Unless there is maintenance or testing being conducted on the processor, the vapor polisher shall be on and in the automatic vapor processor mode and the inlet ball valve shall be locked in the open position for normal polisher operation. The handle of the ball valve shall not be removed.

18. The pressure reading from the TLS console shall be within ±0.2 inches WC of the measured ullage UST pressure as determined by section 8 of Exhibit 10 of Executive Order VR-204.

19. The TLS console controlling the vapor polisher shall have an RS232 port which shall be installed in a location that allows the RS232 port to be easily accessible for use at any time by District staff. A vacant RS232 serial port shall always be available to electronically download reports.

20. Copies of the manufacturer's warranty for the system and/or components shall be made available to the facility owner/operator and a warranty tag shall be affixed as required in the CARB Certification Procedure.

21. All vapor return and vent lines shall be a minimum nominal internal diameter of 2 inches from the dispensers to the first manifold. All lines after the first manifold and back to the underground storage tank shall have a minimum nominal internal diameter of 3 inches.

22. All vapor return lines shall have a minimum slope of 1/8 inch per foot from the dispenser riser to the riser of the UST. A slope of ¼ inch or more per foot is recommended whenever feasible.

23. Any dispenser with a dispenser piping test valve in the closed position shall be considered a defect.

24. For facilities without In-Station Diagnostics (ISD) equipment, if 600,000 gallons of gasoline or greater is dispensed in a calendar year, ISD equipment shall be installed by November 1st of the following year.

25. For facilities with ISD, the operator/owner is advised to follow the District's requirements, if any, following a warning by the Veeder Root or Incon In-Station Diagnostics (ISD) system and a shutdown of the submersible pumps to all gasoline tanks by the ISD systems.

26. For facilities with a Liquid Condensate Trap (LCT), the Liquid Level Sensor audible alarm shall be installed at a location that is most likely to be heard by the station attendant during normal station operation (e.g. cash register).

27. For facilities with a Liquid Condensate Trap, a metal tag specifying the capacity of the LCT shall be installed and maintained as specified in the Installation, Operation, and Maintenance Manual.

28. Instructions for the proper operation of vapor recovery equipment shall be conspicuously posted.

29. The conditions of this Permit to Operate may reflect some but not all applicable requirements. The Owner/Operator is solely responsible for compliance with all applicable regulations.

RECORDKEEPING AND REPORTING

30. Each owner/operator shall keep a Maintenance Log Book on site detailing the maintenance and inspections performed at the facility per the applicable executive order(s). This includes the weekly, quarterly and annual inspections. Forms for the inspections can be found in the appropriate CARB Approved IOMs and are available from the District. The maintenance records shall include the maintenance, annual test date, repair date to correct test failure, maintenance or test performed, affiliation, telephone number, name and Certified Technician Identification Number of the individual conducting maintenance or test. Such records shall be maintained on site for at least two years and made available to the District upon request.

31. Maintenance shall be conducted in accordance with Approved Installation, Operation and Maintenance Manuals. **RECONNECTION** of breakaways shall be included in the maintenance records.

32. If an ISD system is installed, the operator/owner shall keep records of all alarms detected by the ISD system. Alarm History records shall be maintained on site or in accordance with district requirements or policies. The records shall include the alarm date, the nature of the alarm, type of test and test date to verify the validity of ISD

alarm, maintenance or repair date to correct the cause of the alarm, maintenance or repair performed to correct the cause of the alarm, affiliation, telephone number, name and Certified Technician Identification Number of individual conducting maintenance or test. Additional information may be required in accordance with local district requirements.

33. A record of the throughput (i.e. gasoline dispensed, in gallons) shall be made and kept on site for at least two years, pursuant to Rule 410, Record Keeping for Volatile Organic Compound Emissions. This information shall be made available to the District upon request and at the time of annual permit renewal.

PERFORMANCE TESTING

34. Performance tests, using the most recent versions of the test procedures, are required for both new and modified facilities, and for existing facilities. Tests shall be conducted in the presence of District staff. Tests for new or modified facilities shall be successfully conducted within 30 days after startup operations begin. Annual tests for existing facilities shall be conducted at least once in each 12 month period. The test results shall be submitted to the District within 30 days following completion of the tests by either mail, facsimile (FAX), or email. Prior notice of testing shall be given to the District at least 15 days prior to the testing, or as agreed to by the District.

35. Perform the weekly and quarterly inspections prior to the Annual Inspection/Testing. Forms for the annual Inspection/Testing are found in the appropriate Executive Order in the Installation, Operation and Maintenance Manual.

36. The following tests are required for <u>startup</u> of new or modified systems and <u>annually</u>.

    a. A Nozzle Bag Test shall be conducted as outlined in Executive Order VR-203 or VR-204, Exhibit 7.

    b. The Vapor Pressure Sensor Verification Test shall be conducted where the vapor pressure sensor shall be between +0.2 and –0.2 inches WC when tested in accordance with section 9 of Exhibit 10 of the Executive Order VR-204.

    c. The Veeder-Root Vapor Polisher Operability Test Procedure shall be conducted as per Exhibit 11 of Executive Order VR-204. The Vapor Polisher leak rate difference between starting and ending pressures shall be less than 0.5 inches WC loss when tested. The ending pressure must be greater than 7.0 inches WC. Pressure drop across the Vapor Polisher at 18.0 standard cubic feet per hour flow shall be between 1.69 inches WC and 2.25 inches WC when tested. Differences in temperature readings shall not exceed 10°F when tested. The atmospheric pressure sensor reading shall be within 10% of the atmospheric pressure obtained from a local independent source when tested.

    d. The Veeder-Root Vapor Polisher Hydrocarbon Emissions Verification Procedure shall be conducted as per Exhibit 12 of Executive Order VR-204. The

hydrocarbon concentration from the vapor polisher outlet shall not exceed 0.9% by volume iso-butane (9,000 ppmv or 50% of the lower explosive level (LEL)) when tested.

e. The Static Torque of Rotatable Phase I Adaptor Test, CARB Source Test Procedure 201.1B shall be conducted.

f. The Pressure Integrity of Drop Tube/Drain Valve Test, CARB Source Test Procedure 201.1C or Leak Rate of Drop Tube Overfill Prevention Device and Spill Container Drain Valve, TP 201.1D, as appropriate, shall be conducted.

g. Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, CARB Source Test Procedure 201.3. Prior to conducting this test, the tester shall document that each step was followed prior to conducting this source test procedure by utilizing the form in VR-203 or VR-204, Exhibit 4.

h. A Dynamic Pressure Performance Test, CARB Source Test Procedure 201.4.

i. The Liquid Removal Test Procedure shall be conducted as per Exhibit 5 of Executive Order VR-203 or VR-204. If the Option 1 test passes, Option 2 is not required. If Option 2 is performed, the liquid removal requirement is applicable to all grades of gasoline.

j. If ISD is installed, the Veeder-Root (Exhibit 17) or Incon ISD (Exhibit 19 and 20) Operability Test Procedure provided in Executive Order VR-204, shall be used at GDF sites to determine the operability of the Veeder-Root or Incon ISD system to comply with applicable performance standards and performance specification in CP-201. Testing the ISD equipment in accordance with this procedure will verify the proper selection, setup and operation of the TLS Console sensors and interface modules.

k. If the facility contains a Liquid Condensate Trap, the LCT Compliance Test as outlined in Executive Order VR-203 or VR-204, Exhibit 16 shall be conducted. The Liquid Evacuation System shall automatically evacuate gasoline when tested.

37. Failure to conduct the Annual Testing or submit the results within 30 days can result in a monetary penalty. All tests listed above are to be conducted unless otherwise specified.

GENERAL CONDITIONS

38. This permit shall be maintained on the premises of the subject equipment. (Rule 501)

39. The equipment must be properly maintained and kept in good operating condition and shall be leak free and vapor tight as per the California Code of Regulations Title 17, Section 93101.

40. Failure to maintain the vapor recovery equipment may result in a penalty for each “Out of Order” defect or for each 7-day deficiency not corrected in 7 days.

41. Performance testing observation and inspection will be charged at the current District hourly rate for recovery of costs.

42. The authorized District agents shall have the right of entry to any premises on which an air pollution emission source is located for the purpose of inspecting such source, including securing samples of emissions there from, or any records required to be maintained therewith by the District. (Rule 402)

43. In the event of any violation of District Rules and Regulations the station manager shall cease operation of violating equipment and take action to end such violation.

44. The District MUST be notified of any upset or breakdown of emission control or associated equipment pursuant to District Rule 404, Upset Conditions, Breakdown or Scheduled Maintenance.

45. Revisions of this permit may be requested pursuant to District Rule 501, General Permit Requirements, Section 400.

46. Compliance of the permitted facility is required with the provisions of the "Air Toxics `Hot Spots' Information and Assessment Act" of 1987 (Health and Safety Code Sections 44300 et seq.).

47. Prior to the installation, modification or replacement of any equipment for which an Authority to Construct is required pursuant to Health and Safety Code, Section 42300, and District Rule 501, General Permit Requirements, Section 300, an Authority to Construct application shall be filed with the District. This includes a Change of Ownership or name.

48. The applicant/Permittee has an obligation to defend and indemnify the District against third party challenges in accordance with District Rule 411, Indemnification.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-09-01

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

John Finnell for

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: PAC FIT PRODUCT LINE

EQUIPMENT

No.	Equipment	Rating
1	Double Miter Saw, Mfr: Pistorius, Model: MN 300, Motor: 2 @ 1.5 HP, Bag Filter: 99.95% Capture Efficiency.	HP- 3
2	Dewalt Miter Saw	HP- 1.2
3	Dewalt Miter Saw	HP- 1.2
4	Mini Max Lathe	HP- 1.8
5	Intorex Lathe	HP- 10
6	Delta Band Saw	HP- .75
7	Paint Booth	HP- 1
8	Powermatic Table Saw	HP- 5
9	Grizzley Shaper	HP- 2.4
10	Micron Rossette Machine	HP- 3
11	AES Oven Exhaust	HP- .75
12	Craftsman Grinder	HP- .3
13	Dust Collector Powermatic Twin Bag	
14	Porter Cable Router	
15	Planer	
16	Dewalt Miter Saw	HP- 1.2
17	Grizzley Shaper	HP- 2
18	Micron Rossette Machine	HP- 3

19	Grizzley 14" Bandsaw G0555	HP- 1.5
20	Nash Sander	HP- 5
21	Grayco Paint Pump	
22	Craftsman 10" Radial Arm Saw	HP- 2.1
23	Mini Max Band Saw	HP- 2.4
24	Delta Grinder	HP- .5
25	Delta Bandsaw	HP- .33
26	Grizzley Shaper	HP- 7
27	Router Edger	HP- 1.1
28	Powermatic Drill Press	
29	Router	HP- 1.5
30	Jet Wet Sharpener	HP- .3
31	Dust Collector Delta Single Bag	
32	Delta Lathe	HP- .75
33	Delta Grinder	HP- .5
34	Makita Chop Saw	HP- 2.4
35	Delta Band Saw	HP- 1.5
36	William Hussey Moulder2	HP- 2
37	Dewalt Miter Saw	HP- 1.2
38	Dewalt Miter Saw	HP- 1.2
39	Powermatic Drill Press	HP- .75
40	AES Oven Conveyor	HP- 4.3
41	Dewitt Miter Saw	HP- 1.2
42	Micron Rossette Machine	HP- 3
43	Milwakee Miter Saw	HP- 2.4
44	Dust Collector Grizzley Twin Bag	HP- 5.5
45	Dust Collector Dela Twin Bag	

TOTAL RATINGS – HP- 85.03 .

OPERATING CONDITIONS

1. The VOC content of the coatings used on the Pac Fit prime line shall not exceed 0.5 pounds per gallon less water and exempt compounds.

2. All wood waste conveying, transferring and storage operations shall be maintained to effectively control fugitive dust.

3. Collected particulate matter shall be handled in a manner which prevents re-entrainment of the material into the ambient air. No collected particulate matter shall be outside of the collection bin.

4. All trucks hauling woodwaste shall be filled and emptied in such a manner so as to prevent fugitive dust emissions.

5. The total dust collection rate from the facility shall not exceed 20,000,000 pounds per quarter or 40,700 cubic yards per quarter (assuming an average density of 18.2 pounds per cubic foot).

RECORDKEEPING AND REPORTING

6. The following records shall be maintained at the facility for at least five years. These numbers shall be submitted to the District at the end of each calendar year. These records shall be made available to the District at any time upon request.
   A. Quarterly records of coating gallons used, VOC of each coating, and total VOCs emitted.
   B. Quarterly records of waste dust collected by cyclone/baghouse.
   C. Typical schedule of operation, in terms of hours/day, days/week, and weeks/year.
   D. Maximum actual operating hours in any one day.
   E. Cyclone dust captured and Filter Bag dust captured in any day, or contiguous twelve month period.

EMISSIONS LIMITATIONS

7. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.
   B. Emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, " Visible Emissions ".
   C. The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter.
   D. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight.

8. Total air pollutant emissions from the Pac Fit Product Line may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	6	378
Oxides of Nitrogen	N/A	N/A
Carbon Monoxide	N/A	N/A
Sulfur Oxides	N/A	N/A
React. Organic Compounds	2.3	145

9. Total air pollutant emissions from facility operations may not exceed the following rates without the prior authorization of the Air Pollution Control Officer

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-90-02

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: GANG RIP

EQUIPMENT

No.	Equipment	Rating
1	Lift Table, Mfr. - Custom, Motor - 1 @ 2 HP.	HP- 2
2	Infeed Table, Mfr. - 1 @ 3 HP.	HP- 3
3	Conveyor, 1 @ 2 HP.	HP- 2
4	Conveyor Gang Rip Saw, Mfr: Progressive Systems, Feed Drive Rating: 1 @ 5 HP, Arbor Drive Rating: 1 @ 100 HP, Dust Collection: 2 to main cyclone.	HP- 105
5	Lift Table, Mfr: Custom, Motor: 1 @ 2 HP, Conveyor Drive: 5 HP.	HP- 7
6	Four Conveyor Drives: 2 HP each.	HP- 8
7	Lift Table, Motor: 2 HP.	HP- 2

TOTAL RATINGS – HP- 129 .

OPERATING CONDITIONS

1. All wood waste conveying, transferring and storage operations shall be maintained to effectively control fugitive dust.

2. A log book or other record detailing the performance and date of preventive maintenance, corrective maintenance, and inspections, as well as reporting breakdowns

(per District Rule 404), shall be established and maintained. This log or record shall be made available to the District's inspector upon request. Collected particulate matter shall be handled in a manner which prevents re-entrainment of the material into the ambient air. No collected particulate matter shall be outside of the collection bin.

3. The baghouse(s) shall be operated whenever the equipment controlled by the baghouse(s) are operated.

4. All trucks hauling woodwaste shall be filled and emptied in such a manner so as to prevent fugitive dust emissions.

5. The total dust collection rate from the facility shall not exceed 20,000,000 pounds per quarter or 40,700 cubic yards per quarter (assuming an average density of 18.2 pounds per cubic foot).

RECORDKEEPING AND REPORTING

6. The following records shall be maintained at the facility for at least five years. These numbers shall be submitted to the District at the end of each calendar year. These records shall be made available to the District at any time upon request.
   A. Quarterly records of coating gallons used, VOC of each coating, and total VOCs emitted.
   B. Quarterly records of waste dust collected by cyclone/baghouse.
   C. Typical schedule of operation, in terms of hours/day, days/week, and weeks/year.
   D. Maximum actual operating hours in any one day.
   E. Cyclone dust captured and Filter Bag dust captured in any day, or contiguous twelve month period.
   F. Throughput to the panel saw.
   G. Quarterly and annual usage of natural gas to fire the ovens.

EMISSIONS LIMITATIONS

7. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.
   B. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, "Visible Emissions ".
   C. The emission of sulfur compounds, calculated as sulfur dioxide (SO2) shall not exceed 0.2 percent by volume per Rule 210, "Specific Contaminants".
   D. The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter.
   E. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight .

F. Total air pollutant emissions from facility operations, may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

SEE "GENERAL CONDITIONS" AT THE END OF PACM-86-01.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-03-01

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: BULK PAINT STORAGE TANK

EQUIPMENT

No.	Equipment	Rating
1	Bulk Paint Storage Tank, Capacity: 10,000 Gallons, Tank Type: Closed and Pressurized, Vent to Atmosphere Upon Overpressure, Throughput: 82,500 Gallons/yr, Mixer Drive: 10 HP.	GAL-10000 10 hp

TOTAL RATINGS – GAL- 10000, HP- 10.

OPERATING CONDITIONS

1. Conditions of PACM-86-01 apply to this permit.

EMISSIONS LIMITATIONS

2. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.

B. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, "Visible Emissions".

C. The emission of sulfur compounds, calculated as sulfur dioxide (SO2) shall not exceed 0.2 percent by volume per Rule 210, "Specific Contaminants".

D. The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter.

E. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight.

F. Total air pollutant emissions from facility operations, may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

SEE "GENERAL CONDITIONS" AT THE END OF PACM-86-01.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-90-04

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: JAMB LINE

EQUIPMENT

No.	Equipment	Rating
1	Double End Tennoner, Mfr: Greenlee, Model: # 542, Feed Drive Rating: 1 @ 3 HP, Arbor Drive Rating: 4 @ 7.5 HP each, Lift Table: 1 @ 2 HP, Outfeed Conveyor: 1 @ 2 HP, Waste Conveyor: 1 @ 2 HP, Dust Collection: One pickup to Cyclone and Baghouse listed in PACM-90-03.	HP- 39

TOTAL RATINGS – HP- 39 .

OPERATING CONDITIONS

1. Plant manager shall report any changes in operation or process to the District immediately.

2. All wood waste conveying, transferring and storage operations shall be maintained to effectively control fugitive dust.

3. Collected particulate matter shall be handled in a manner which prevents re-entrainment of the material into the ambient air. No collected particulate matter shall be outside of the collection bin.

4. The baghouse(s) shall be operated whenever the equipment controlled by the baghouse(s) are operated.

5. All trucks hauling woodwaste shall be filled and emptied in such a manner so as to prevent fugitive dust emissions.

6. The total dust collection rate from the facility shall not exceed 20,000,000 pounds per quarter or 40,700 cubic yards per quarter (assuming an average density of 18.2 pounds per cubic foot).

RECORDKEEPING AND REPORTING

7. The following records shall be maintained at the facility for at least five years. These numbers shall be submitted to the District at the end of each calendar year. These records shall be made available to the District at any time upon request.
   A. Quarterly records of coating gallons used, VOC of each coating, and total VOCs emitted.
   B. Quarterly records of waste dust collected by cyclone/baghouse.
   C. Typical schedule of operation, in terms of hours/day, days/week, and weeks/year.
   D. Maximum actual operating hours in any one day.
   E. Cyclone dust captured and Filter Bag dust captured in any day, or contiguous twelve month period.
   F. Throughput to the panel saw.
   G. Quarterly and annual usage of natural gas to fire the ovens.

EMISSIONS LIMITATIONS

8. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.
   B. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, "Visible Emissions ".
   C. The emission of sulfur compounds, calculated as sulfur dioxide (SO2) shall not exceed 0.2 percent by volume per Rule 210, "Specific Contaminants".
   D. The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter.
   E. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight .

F. Total air pollutant emissions from facility operations, may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

SEE "GENERAL CONDITIONS" AT THE END OF PACM-86-01.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-00-21

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: MULTI-RIP SAW AND CHAINSAW

EQUIPMENT

No.	Equipment	Rating
1	Multi-Rip Saw, Mfr: Progressive Systems, Inc, Model: FR4-31, Drive Motor: 125 hp, Conveyor, Drive Motor: 7.5 HP, Dust Pickups: 2 Total.	HP-132.5
2	Chainsaw, Mfr/Model: Holtec Transcut Saw, Drive Motor: 10 HP, Conveyor, Drive Motor: 7.5 HP.	HP- 17.5

TOTAL RATINGS – HP- 150 .

OPERATING CONDITIONS

1. All wood waste conveying, transferring and storage operations shall be maintained to effectively control fugitive dust.

2. A log book or other record detailing the performance and date of preventive maintenance, corrective maintenance, and inspections, as well as reporting breakdowns (per District Rule 404), shall be established and maintained. This log or record shall be made available to the District's inspector upon request.

3. Spare bags shall be kept available for the replacement of torn or otherwise defective bags. Replacement bags shall be made available for District inspection.

4. Collected particulate matter shall be handled in a manner which prevents re-entrainment of the material into the ambient air. No collected particulate matter shall be outside of the collection bin.

5. The baghouse(s) shall be operated whenever the equipment controlled by the baghouse(s) are operated.

6. All trucks hauling woodwaste shall be filled and emptied in such a manner so as to prevent fugitive dust emissions.

7. The total dust collection rate from the facility shall not exceed 9,832,312 pounds per quarter or 20,000 cubic yards per quarter (assuming an average density of 18.2 pounds per cubic foot).

8. Filter bags shall be covered by an enclosure. If required by the Air Pollution Control Officer, a discharge stack shall be constructed through which all discharges are made to the atmosphere. Access to the exhaust stack shall be provided by a test platform or other means, and sampling ports shall be installed in accordance with 40 CFR 60.8(e), and District Rule 514, Source Sampling.

RECORDKEEPING AND REPORTING

9. The following records shall be maintained at the facility for at least five years. These numbers shall be submitted to the District at the end of each calendar year. These records shall be made available to the District at any time upon request.
   A. Quarterly records of coating gallons used, VOC of each coating, and total VOCs emitted.
   B. Quarterly records of waste dust collected by cyclone/baghouse.
   C. Typical schedule of operation, in terms of hours/day, days/week, and weeks/year.
   D. Maximum actual operating hours in any one day.
   E. Cyclone dust captured and Filter Bag dust captured in any day, or contiguous twelve month period.
   F. Throughput to the panel saw.
   G. Quarterly and annual usage of natural gas to fire the ovens.

EMISSIONS LIMITATIONS

10. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.
   B. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, "Visible Emissions ".
   C. The emission of sulfur compounds, calculated as sulfur dioxide (SO2) shall not exceed 0.2 percent by volume per Rule 210, "Specific Contaminants".

D. . The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter .

E. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight.

F. Total air pollutant emissions from facility operations, may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

SEE "GENERAL CONDITIONS" AT THE END OF PACM-86-01.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-90-03

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: M/LINE RAW

EQUIPMENT

No.	Equipment	Rating
1	Dentil Sawing Machine, Arbor Motor: 2 HP, Infeed Conveyor: 2 HP, Outfeed Conveyor: 2 HP, Lift Table: 2 HP.	HP- 8
2	Moulder, Mfr./Model: Weinig Unimat 22B, Drive Rating: 20 HP, Head Drives: 6 @ Total of 75 HP, Outfeed Conveyors: 2 @ Total of 10 HP, Dust Collection: 8 to main cyclone.	HP- 105
3	Moulder, Mfr: Weinig, Model: Hydromat 22AL, Lift Table: 1 @ 2 HP, Infeed Conveyor: 1 @ 2 HP, Feed Drive: 1 @ 7.5 HP, Head Drives: 2 @ 20 HP; 1 @ 10 HP; 2 @ 15 HP, Dust Collection: 5 to main cyclone.	HP- 91.5
4	Cyclone, Mfr: Johnson 8' x 16', Air Flow: 21380 cfm.	
5	Cyclone Blower, Mfr: Buffalo, Model: BL1200, Drive: 100 HP.	HP- 100
6	Baghouse (AC-94-36), Mfr: Clarke, Model: 60-20, Booster Fan: 1 @ 40 HP, Purge Fan: 1 @ 30 HP, Bag Sweep: 1 @ 1 HP.	HP- 71
7	Two Waste Collection Bins (AC-94-36), Primary Mfr: American, Capacity: 16 units, Surge Mfr: Peerless, Capacity: 14 units, Transfer screw: 1 @ 7.5 HP, Rotary Valve: 1 @ 2 HP.	HP- 9.5
8	Baghouse, Mfr: LMC Manufacturing Co., Model: 378-LP-10-S, Reverse air with 378 bags, 10' length, cloth area 6300, Internal fan rated @ 25 hp, Sweep arm motor: 1 HP.	HP- 26
9	Transfer Blower: 30 HP.	HP- 30

10	External Blower: 200 HP	HP- 200
11	Wood Grinder, Mfr: Challanger, Model: N/A, 75 HP.	HP- 75

TOTAL RATINGS – HP- 716 .

OPERATING CONDITIONS

1. Collected particulate matter shall be handled in a manner which prevents re-entrainment of the material into the ambient air. No collected particulate matter shall be outside of the collection bin.

2. The baghouse(s) shall be operated whenever the equipment controlled by the baghouse(s) are operated.

3. Combined facility emissions shall not exceed the following limits:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

4. SEE "GENERAL CONDITIONS" AT THE END OF PACM-86-01.

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
PACIFIC MDF PRODUCTS, INC.
4312 ANTHONY COURT
ROCKLIN, CA 95677

PERMIT NUMBER: PACM-86-01

FACILITY LOCATION:
PACIFIC MDF PRODUCTS, INC.
4315 DOMINGUEZ ROAD
ROCKLIN, CA 95677

VALID FROM:
10/1/2016 - 9/30/2017

Erik C. White
Air Pollution Control Officer

9/29/2016
Issue Date

PROCESS DESCRIPTION: LOW VOC PRIME LINE

EQUIPMENT

No.	Equipment	Rating
1	Gesso Prime Coating Machine, Mfr: PAO MACC, Model: TR 5.	HP- 1
2	Three Infeed Tables, Mfr: Custom by Pacific MDF, Drive Motor: 2 HP Each.	HP- 6
3	Moulder #4, Mfr: Weinig, Model: 23C, Number of Heads: 6 Total and One Drive Motor: 140 HP Total, Infeed Conveyor, Drive Motor: 2 HP, Dust Pickups: 6 Total.	HP- 142
4	Moulder, Mfr: Weinig, Model: H30N, Dust Pickups: 6 Total, Drive Rating: 130 HP.	HP- 130
5	Two Cross Transfer Systems, Two Drives: 5 HP Each, Two Drives: 1 HP Each, Six Drives: 0.5 HP Each.	HP- 15
6	Presander, Mfr: Custom by Pacific MDF, Top Heads: 4 @ 10 HP Each, Side Heads: 4 @ 7.5 HP Each, Drive Motor: 5 HP, Dust Pickups: 8 Total.	HP- 75
7	Presander, Mfr: Bastech, Total Heads: 4 @ 5 HP Each and 4 @ 1.5 HP Each, Drive Motor: 3 HP, Dust Pickups: 6 Each.	HP- 29
8	Preheaters, 4 each, Mfr: Custom by Pacific MDF, Model: N/A, Fuel Type: Natural Gas, Rating: 0.05 MMBtu/hr each.	MBTU- 200
9	Coater, Mfr: AES Vacuum System, Turbines: 4 @ 15 HP Each, Drive Motors: 2 HP and 1.5 HP.	HP- 63.5
10	Coater, Mfr: AES Vacuum System, Turbines: 4 @ 15 HP Each, Drive Motors: 2 HP and 1.5 HP.	HP- 63.5

11	Oven, Mfr: AES IR System, Natural Gas Fired, Burners: 64 each @ 30 MBTU/hr for Total Capacity of 1.92 MMBTU/hr, Recirculating Fans: 3 @ 1 HP Each, Cooling Fans: 6 @ 0.5 HP Each, Exhaust Fans: 2 @ 0.75 HP Each, Drive Motors: 2 @ 5 HP Each, Two Transfer Systems, Drive Motors: 2 @ 1.5 HP Each and 2 @ 0.5 HP Each and 4 @ 2 HP Each.	HP- 29.5 MBTU- 1920
12	Two Finish Sanders, Top Heads: 4 @ 1.5 HP Each, Side Heads: 4 @ 1.5 HP Each, Drive Motors: 2 @ 3 HP Each, Dust Pickups: 4 Each.	HP- 18
13	Two Fan Coaters.	
14	Oven, Mfr: Custom by Pacific MDF, Natural Gas Fired, Burner Ratings: 2 @ 1.2 MM BTU/ hr, Drive Motors: 2 @ 5 HP Each, Two Transfer Systems, Drive Motors: 2 @ 1.5 HP Each and 2 @ 0.5 HP Each and 6 @ 2 HP Each, Recirculation Blowers: 2 @ 25 HP Each, Exhaust Blower: 1 @ 5 HP.	HP- 81 MBTU- 2400
15	Two Packaging Burnishers, Mfr: Bastech, Heads: 4 @ 1.5 HP Each Burnisher, Drive Motors: 2 HP Each.	HP- 16
16	Two Packaging Stations, Drive Motors: 2 @ 5 HP and 6 @ 1 HP for Each Station.	HP- 32
17	22 Misc. Conveyors, Mfr: Custom by Pacific MDF, Drive Motors: 2 HP Each.	HP- 44

TOTAL RATINGS – HP- 745.5 MBTU- 4520 .

1. The VOC content of the coatings used on the low VOC prime line shall not exceed 0.5 pounds per gallon less water and exempt compounds.

2. The total annual usage of natural gas from all coating ovens at the facility shall not exceed 453,000 therms per year.

3. The lids/tops of all coaters shall be in place when coaters are in use.

4. All waste containers containing waste coatings and/ or solvents shall be covered to minimize evaporative losses.

5. Pacific MDF Products shall not dispose of a total of more than 1.5 gallons of photochemically reactive solvent by means which will permit evaporation of such solvent into the atmosphere, per Rule 219, Organic Solvents.

RECORDKEEPING AND REPORTING

6. The following records shall be maintained at the facility for at least five years. These numbers shall be submitted to the District at the end of each calendar year. These records shall be made available to the District at any time upon request.
   A. Quarterly records of coating gallons used, VOC of each coating, and total VOCs emitted.
   B. Quarterly records of waste dust collected by cyclone/baghouse.
   C. Typical schedule of operation, in terms of hours/day, days/week, and weeks/year.
   D. Maximum actual operating hours in any one day.
   E. Cyclone dust captured and Filter Bag dust captured in any day, or contiguous twelve month period.

F. Throughput to the panel saw.
G. Quarterly and annual usage of natural gas to fire the ovens.

EMISSIONS LIMITATIONS

7. Emissions Limitations
   A. No emissions are permitted, from any source, which are a nuisance per District Rule 205, Nuisance.
   B. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for a period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of District Rule 202, "Visible Emissions".
   C. The emission of sulfur compounds, calculated as sulfur dioxide (SO2) shall not exceed 0.2 percent by volume per Rule 210, "Specific Contaminants".
   D. The particulate emissions concentration from any source shall not exceed 0.1 grains per dry standard cubic foot, per District Rule 207, Particulate Matter.
   E. Particulate emissions shall not exceed the pounds per hour emission limits per ton of material of Rule 207, Process Weight.

   F. Total air pollutant emissions from facility operations, may not exceed the following rates without the prior authorization of the Air Pollution Control Officer:

	Lbs./day	Lbs./quarter
PM-10	82	7,450
Oxides of Nitrogen	10	893
Carbon Monoxide	9	750
Sulfur Oxides	0.06	5.4
React. Organic Compounds	94	8,512

GENERAL CONDITIONS

8. Authorization to construct the equipment listed and as prescribed in the approved plans and specifications is hereby granted, subject to the specified permit conditions. The construction and operation of listed equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted in the conditions. Deviation from the approved plans is not permissible without first securing approval for the changes from the Air Pollution Control Officer. (Rule 501)

9. This permit shall be maintained on the premises of the subject equipment. (Rule 501)

10. The authorized District agents shall have the right of entry to any premises on which an air pollution emission source is located for the purpose of inspecting such source, including securing samples of emissions therefrom, or any records required to be maintained therewith by the District. (Rule 402)

11. In the event of any violation of the District Rules and Regulations, the company shall take action to end such violation. (Rule 502)

12. The company shall notify the District within two hours of any upset conditions, breakdown or scheduled maintenance which cause emissions in excess of limits established by District Rules and Regulations. (Rule 404)

13. Any alterations of the subject equipment, including a change in the method of operation, shall be reported to the District. Such alterations may require an Authority to Construct Permit. (Rule 501)

14. Exceeding any of the limiting conditions is prohibited without prior application for, and the subsequent granting of a permit modification pursuant to District Rule 501, General Permit Requirements, Section 400.

15. In the event of a change of ownership, an application must be submitted to the District. Upon any change in control or ownership of facilities constructed, operated, or modified under authority of this permit, the requirements contained in this Authority to Construct shall be binding on all subsequent owners and operators.(Rule 501)

16. Title V Recordkeeping Requirements: Recordkeeping and reporting pursuant to District Rule 511, Potential to Emit, shall be performed if the facility emissions exceed any of the following in any 12 month period:
    A. 5 tons per year of a regulated air pollutant (excluding HAPs);
    B. 2 tons per year of a single HAP;
    C. 5 tons per year of any combination of HAPs;
    D. 20 percent of any lesser threshold for a single HAP that the United States Environmental Protection Agency (U.S. EPA) may establish by rule.

17. Title V Operating Limitations: The Owner/Operator shall file an application pursuant to Rule 512, Request for Synthetic or Source Status or Rule 507, Federal Operating Permit Program if the facility emissions exceed any of the following in any 12 month period:
    A. 12.5 tons of nitrogen oxides, 12.5 tons of volatile organic compounds, 50 tons of sulfur oxides, 50 tons of PM-10 or 50 tons of carbon monoxide;
    B. 5 tons of a single hazardous air pollutant (HAP);
    C. 12.5 tons of any combination of HAPs;
    D. 50 percent of any lesser threshold for a single HAP as the U.S. EPA may establish by rule.

18. Performance Test Requirements: If the District finds that performance tests are required to determine compliance with District Rules and Regulations and Conditions of this Authority to Construct, reasonable written notice shall be provided to the Company. The performance tests shall be subject to the following restrictions:
    A. At least thirty (30) days prior to the actual testing, a written test plan shall be submitted to the Air Pollution Control Officer detailing the sampling methods, analytical methods or detection principles to be used. The prior written approval of the Air Pollution Control Officer is required for the use of alternate test methods.

B. The District may require, upon reasonable written notice, the conduct by the company of such emissions testing or analysis as may be deemed necessary by the District to demonstrate compliance with District Rules and Regulations and the limiting conditions of this permit.

C. Testing shall be conducted in accordance with 40 CFR 60, Appendix A, Methods, or equivalent methods approved by the State of California Air Resources Board (ARB) by reference in Title 17 of the California Administrative Code, or other methods specified by the company and approved in writing by the Air Pollution Control Officer. Independent testing contractors and analytical laboratories shall be Air Resources Board certified for the test or analysis conducted. Particulate matter testing, if requested, shall include both filterable and condensed particulate matter (e.g. Method 5 modified to include impinger catch).

D. A report of the testing shall be submitted to the District no later than sixty (60) days after the source test is performed.

19. Compliance of the permitted facility is required with the provisions of the "Air Toxics `Hot Spots' Information and Assessment Act" of 1987 (Health and Safety Code Sections 44300 et seq.).

20. The applicant/Permittee has an obligation to defend and indemnify the District against third party challenges in accordance with District Rule 411.

Dimitri Antoniou

From: Hannah Kornfeld
Sent: Tuesday, March 07, 2017 1:12 PM
To: Dimitri Antoniou
Subject: FW: Online Form Submission - Air Pollution Public Record & Information Requests [#285]

From: John Finnell [mailto:JFinnell@placer.ca.gov]
Sent: Tuesday, March 7, 2017 1:11 PM
To: Hannah Kornfeld <Hannah.Kornfeld@ascentenvironmental.com>
Subject: RE: Online Form Submission - Air Pollution Public Record & Information Requests [#285]

Dawson Oil reported 668,739 gallons for 2015. The maximum gallons reported has been 994,584 for 2006. There is no throughput limit on this permit.

John Finnell
Manager, Permitting & Engineering
Placer County Air Pollution Control District
110 Maple Street, Auburn, CA 95603
(530) 745-2324

From: Hannah Kornfeld [mailto:Hannah.Kornfeld@ascentenvironmental.com]
Sent: Tuesday, March 07, 2017 1:02 PM
To: John Finnell
Cc: Shannon Harroun
Subject: RE: Online Form Submission - Air Pollution Public Record & Information Requests [#285]

Hi John,

Do you know approximately how many gallons per year the annual throughput is? Is there a range that goes up to a million?

Thanks,
Hannah

From: John Finnell [mailto:JFinnell@placer.ca.gov]
Sent: Tuesday, March 7, 2017 10:27 AM

To: Hannah Kornfeld <Hannah.Kornfeld@ascentenvironmental.com>
Cc: Shannon Harroun <SHarroun@placer.ca.gov>
Subject: FW: Online Form Submission - Air Pollution Public Record & Information Requests [#285]

Attached is a copy of the air permit at 4325 Pacific Street. The maximum reported annual throughput is less than a million gallons per year. We do not have a risk assessment for this site.

John Finnell
Manager, Permitting & Engineering
Placer County Air Pollution Control District
110 Maple Street, Auburn, CA 95603
(530) 745-2324

From: Placer County Air Pollution Control District [mailto:no-reply@wufoo.com]
Sent: Friday, March 03, 2017 2:22 PM
To: Placer County APCD Records
Subject: Online Form Submission - Air Pollution Public Record & Information Requests [#285]

Name *	Hannah Kornfeld
Company	Ascent Environmental
Phone Number *	(916) 930-3199
Email	hannah.kornfeld@ascentenvironmental.com
Mailing Address *	☐ 455 Capitol Mall Suite 300 Sacramento, CA 95814 United States
Preferred Method of Contact *	Email
Providing Information to You *	Emailed copies of document electronic media copies
Type of Request *	Information on violations or permits by a permitted faciity or in regard to a location/parcel

Charges for Information Research *	I only want this requested acted upon if charges will be waived
Company Name	Dawson Oil Co.
Site Address/APN	☐ 4325 Pacific St Rocklin, CA 95677 United States
Records Requested	Permit To Operate Air Toxics
Description of Requested Records *	I'm seeking permit data for this location for any potential air quality risk within a project site adjacent to this facility.

Appendix B

Traffic Study Report

Draft Transportation Impact Study for

Sierra Pine Residential Project

Prepared for:
City of Rocklin

March 6, 2017

RS16-3486

FEHR PEERS

TABLE 1:
LEVEL OF SERVICE DEFINITIONS – INTERSECTIONS

Level of Service	Description (at Signalized Intersections)	Average Control Delay[1]	
		Signalized	Unsignalized
A	Volume-to-capacity ratio is low and either progression is exceptionally favorable or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping.	≤ 10	≤ 10.0
B	Volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10 to 20	> 10.0 to 15.0
C	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35	> 15.0 to 25.0
D	Volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55	> 25.0 to 35.0
E	Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	>55 to 80	> 35.0 to 50.0
F	Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80	> 50.0

Notes: [1]Average control delay presented in seconds per vehicle. Delay values are rounded to the nearest second.
Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

TABLE 2:
PEAK HOUR INTERSECTION OPERATIONS – EXISTING CONDITIONS

Intersection	Traffic Control	Peak Hour	Existing Conditions	
			Delay[1]	LOS
1. Pacific Street / Rocklin Road	Signal	AM	23	C
		PM	25	C
2. Pacific Street / Midas Avenue	Signal	AM	19	B
		PM	22	C
3. Pacific Street / Dominguez Road	Signal	AM	16	B
		PM	16	B
4. Granite Drive / Rocklin Road	Signal	AM	12	B
		PM	21	C
5. Granite Drive / Dominguez Road	SSSC[2]	AM	12 (3)	B (A)
		PM	14 (3)	B (A)
6. Granite Drive / Sierra College Boulevard	Signal	AM	21	C
		PM	19	B

Notes: [1] Average delay (rounded to the nearest second) and LOS for signalized intersections is the weighted average for all movements.
[2] For side street stop controlled intersections, the worst movement delay and LOS is reported, followed by the weighted average of all movements (in parentheses).
Source: Fehr & Peers, 2017.

TABLE 3:
TRIP GENERATION ESTIMATE – PROPOSED PROJECT

Land Use	Units	Trip Rates							Vehicle Trips						
		Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
Single Family Residential	199	9.52	0.75	25%	75%	1.00	63%	37%	1,894	149	37	112	199	125	74

Notes:
[5] Based on trip rates contained in *Trip Generation Manual, 9th Ed.* (Institute of Transportation Engineers, 2012).
Source: Fehr & Peers, 2017.

TABLE 4:
PEAK HOUR INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Peak Hour	Existing		Existing Plus Project	
			Delay[1]	LOS	Delay[1]	LOS
1. Pacific Street / Rocklin Road	Signal	AM	23	C	21	C
		PM	25	C	23	C
2. Pacific Street / Midas Avenue	Signal	AM	19	B	19	B
		PM	22	C	22	C
3. Pacific Street / Dominguez Road	Signal	AM	16	B	17	B
		PM	16	B	17	B
4. Granite Drive / Rocklin Road	Signal	AM	12	B	13	B
		PM	21	C	25	C
5. Granite Drive / Dominguez Road	SSSC[2]	AM	12 (3)	B (A)	14 (4)	B (A)
		PM	14 (3)	B (A)	18 (4)	C (A)
6. Granite Drive / Sierra College Boulevard	Signal	AM	21	C	21	C
		PM	19	B	19	B

Notes: [1] Average delay (rounded to the nearest second) and LOS for signalized intersections is the weighted average for all movements.
[2] For side street stop controlled intersections, the worst movement delay and LOS is reported, followed by the weighted average of all movements (in parentheses).
Source: Fehr & Peers, 2017.

TABLE 5:
APPROVED PROJECT LIST

Name	Land Use Type/Quantity	Location
Rocklin Crossings	83 ksf retail	SE quadrant of I-80/Sierra College Blvd.
Rocklin Commons	120 ksf retail	NW quadrant of I-80/Sierra College Blvd.
Garnet Creek	224 MF du's	On Granite Drive, opposite Target
Granite Dominguez Subdivision	71 SF du's	On Granite Drive, west of Dominguez Rd.
Los Cerros Subdivision	115 sf du's	On ridge along Hillside Dr.
Brighton Subdivision	72 SF du's	NE corner of Granite and Dominguez
Rocklin 60	179 sf du's	Behind Rocklin Crossings along Schriber Way
Croftwood, Unit 1	51 Sf du's	East of Schriber Way
Granite Terrace	42 sf du's	Behind Rocklin library
Avalon Subdivision	76 SF du's	On Rocklin Road east of Grove Street
Sierra Gateway Apts	195 MF du's	SE corner of Rocklin Road/Sierra College Blvd.
Clover Valley Residential	558 SF du's	West of Sierra College Boulevard and east of Whitney Oaks
Parklands Subdivision	142 SF du's	North of Pacific Street west of Del Mar Ave.
The Center at Secret Ravine	16 ksf retail	East of Sierra College south Rocklin Crossings
ZL Rocklin	140 MF du's and 16 ksf retail	North of Pacific St, and east of Midas Ave.

Notes: SF = Single-Family. MF = Multi-Family. Du=Dwelling Unit. Ksf = thousand square feet.
Source: Fehr & Peers, 2017.

TABLE 6:
PEAK HOUR INTERSECTION OPERATIONS – EXISTING PLUS APPROVED PROJECTS PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Peak Hour	Existing Plus Approved Projects		Existing Plus Approved Projects Plus Project	
			Delay[1]	LOS	Delay[1]	LOS
1. Pacific Street / Rocklin Road	Signal	AM	24	C	23	C
		PM	26	C	25	C
2. Pacific Street / Midas Avenue	Signal	AM	20	B	19	B
		PM	24	C	24	C
3. Pacific Street / Dominguez Road	Signal	AM	19	B	19	B
		PM	21	C	22	C
4. Granite Drive / Rocklin Road	Signal	AM	18	B	21	C
		PM	30	C	34	C
5. Granite Drive / Dominguez Road	SSSC[2]	AM	17 (3)	C (A)	22 (5)	C (A)
		PM	24 (4)	C (A)	46 (9)	E (A)
6. Granite Drive / Sierra College Boulevard	Signal	AM	22	C	24	C
		PM	24	C	24	C

Notes: [1] Average delay (rounded to the nearest second) and LOS for signalized intersections is the weighted average for all movements.
[2] For side street stop controlled intersections, the worst movement delay and LOS is reported, followed by the weighted average of all movements (in parentheses).
Source: Fehr & Peers, 2017.

TABLE 7:
PEAK HOUR INTERSECTION OPERATIONS – CUMULATIVE PLUS PROJECT CONDITIONS (WITH DOMINGUEZ ROAD OVERCROSSING)

Intersection	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay[1]	LOS	Delay[1]	LOS
1. Pacific Street / Rocklin Road	Signal	AM	29	C	30	C
		PM	37	D	36	D
2. Pacific Street / Midas Avenue	Signal	AM	26	C	27	C
		PM	25	C	25	C
3. Pacific Street / Dominguez Road	Signal	AM	26	C	27	C
		PM	32	C	34	C
4. Granite Drive / Rocklin Road	Signal	AM	19	B	19	B
		PM	41	D	42	D
5. Granite Drive / Dominguez Road	Signal	AM	23	C	24	C
		PM	38	D	38	D
6. Granite Drive / Sierra College Boulevard	Signal	AM	86	F	85	F
		PM	99	F	99	F

Notes: [1]For signalized intersections, average delay (rounded to the nearest second) and LOS is reported for the weighted average of all movements.
Source: Fehr & Peers, 2017.

TABLE 8:
PEAK HOUR INTERSECTION OPERATIONS – CUMULATIVE PLUS PROJECT CONDITIONS (WITHOUT DOMINGUEZ ROAD OVERCROSSING)

Intersection	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay[1]	LOS	Delay[1]	LOS
1. Pacific Street / Rocklin Road	Signal	AM	31	C	31	C
		PM	39	D	38	D
2. Pacific Street / Midas Avenue	Signal	AM	25	C	25	C
		PM	25	C	26	C
3. Pacific Street / Dominguez Road	Signal	AM	20	C	20	C
		PM	36	D	37	D
4. Granite Drive / Rocklin Road	Signal	AM	20	B	21	C
		PM	51	D	53	D
5. Granite Drive / Dominguez Road	SSSC[2]	AM	23 (5)	C (A)	27 (7)	D (A)
		PM	97 (19)	F (C)	176 (34)	F (D)
6. Granite Drive / Sierra College Boulevard	Signal	AM	105	F	105	F
		PM	110	F	111	F

Notes: [1] Average delay (rounded to the nearest second) and LOS for signalized intersections is the weighted average for all movements.
[2] For side street stop controlled intersections, the worst movement delay and LOS is reported, followed by the weighted average of all movements (in parentheses).
Source: Fehr & Peers, 2017.

TABLE 9:
AVERAGE DAILY TRAFFIC ON DOMINGUEZ ROAD ALONG PROJECT FRONTAGE

Scenario	Average Daily Traffic (ADT) [2]	
	On Dominguez Road north of Street D	On Dominguez Road south of Street F
Existing Conditions[1]	2,500	2,500
Existing Plus Project Conditions	3,150	3,750
Existing Plus Approved Projects Conditions	3,500	3,500
Existing Plus Approved Projects Plus Project Conditions	4,150	4,750
Cumulative No Project Conditions (with Dominguez Road Overcrossing)	12,400	12,400
Cumulative Plus Project Conditions (with Dominguez Road Overcrossing)	12,900	13,200
Cumulative No Project Conditions (without Dominguez Road Overcrossing)	5,850	5,850
Cumulative Plus Project Conditions (without Dominguez Road Overcrossing)	6,650	6,700

Notes: [1] Estimated based on AM and PM peak hour volume using a 0.18 k-factor (i.e., ratio of AM+PM peak hour to daily traffic).
[2] Refer to previous chapter for process used to develop forecasting for future year scenarios and project trips.
Values rounded to the nearest 50 vehicles.
Fehr & Peers, 2017.

TABLE 10:
TRIP GENERATION COMPARISON

Land Use	Units	Trip Rates							Vehicle Trips						
		Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out		Total	In	Out	Total	In	Out
Single Family Residential	199 du's	9.52	0.75	25%	75%	1.00	63%	37%	1,894	149	37	112	199	125	74
Light Industrial	371.1 ksf	7.19	0.94	88%	12%	1.00	12%	88%	2,670	349	307	42	373	45	328
							Difference		+776	+200	+270	-70	+174	-80	+254

Notes:
[5]Based on trip rates contained in *Trip Generation Manual, 9th Ed.* (Institute of Transportation Engineers, 2012).
Source: Fehr & Peers, 2017.

VMT CALCULATIONS

This section describes the methodology used to calculate the average weekday Vehicle Miles of Travel (VMT) associated with the proposed project. VMT is presented for informational purposes in this study. However, the values shown here may be used as inputs to other technical studies such as air quality, noise, and greenhouse gas emissions.

VMT is considered a useful metric in understanding of the overall impacts of a project on the transportation system. VMT is often expressed on a 'per unit", "per capita", or "per employee" basis to understand the relative efficiency of one project versus another. By definition, one VMT occurs when a vehicle is driven one mile. In addition, a given VMT value represents vehicular miles of travel for an entire weekday. Lastly, VMT values in this chapter represent the full length of a given trip, and are not truncated at city, county, or region boundaries.

To estimate the project's VMT, the project was input into the recently developed City of Rocklin base year (2016) travel demand model. The model was run, and all travel to/from the traffic analysis zone (TAZ) representing the project were tracked throughout model. The model estimated that the project would generate 12,915 VMT, which equates to about 65 VMT per dwelling unit.

This section describes the methodology used to calculate the average weekday Vehicle Miles of Travel (VMT) associated with the proposed project under cumulative conditions. To estimate the project's VMT, the project was input into the 2030 City of Rocklin travel demand model. The model was run, and all travel to/from the traffic analysis zone (TAZ) representing the project was tracked throughout model. This was conducted both without with the Dominguez Road overcrossing. Following are the results:

- Project VMT under cumulative conditions (with Dominguez Road Overcrossing) = 9,018 VMT (45 VMT per unit).
- Project VMT under cumulative conditions (without Dominguez Road Overcrossing) = 9,322 VMT (47 VMT per unit).

The decrease in project VMT under cumulative conditions is likely caused by the addition of new complementary land uses in the project vicinity such as additional retail at I-80/Sierra College Boulevard interchange, and employment opportunities in downtown.

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APPENDIX A:
CIRCULAR 212 INTERSECTION LOS CALCULATIONS (ALL SCENARIOS)

APPENDIX B:
EXISTING CONDITIONS TECHNICAL CALCULATIONS

APPENDIX C:
EXISTING PLUS PROJECT CONDITIONS TECHNICAL CALCULATIONS

APPENDIX D:

EXISTING PLUS APPROVED PROJECTS CONDITIONS TECHNICAL CALCULATIONS

APPENDIX E:
CUMULATIVE CONDITIONS TECHNICAL CALCULATIONS