Air Quality and Greenhouse Gas Analysis

Croftwood 2 Project

Prepared for:

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Introduction

This Air Quality and Greenhouse Gas Analysis identifies and analyzes the potential environmental impacts from the Croftwood Unit 2 Project (proposed project) related to air quality and greenhouse gas (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. If the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures that should be applied to the project are prescribed. All modeling results are included in the Appendix to this document.

Project Summary

The proposed project is located at 4588 Barton Road, in the City of Rocklin, California. The proposed project site is located approximately 0.75-mile east of Interstate 80 (I-80), and one mile north east of Sierra College. The project site consists of approximately 25.4 acres of undeveloped land with Secret Ravine bordering the northwestern portion of the site, and a number of trees throughout the site (see Figure 1).

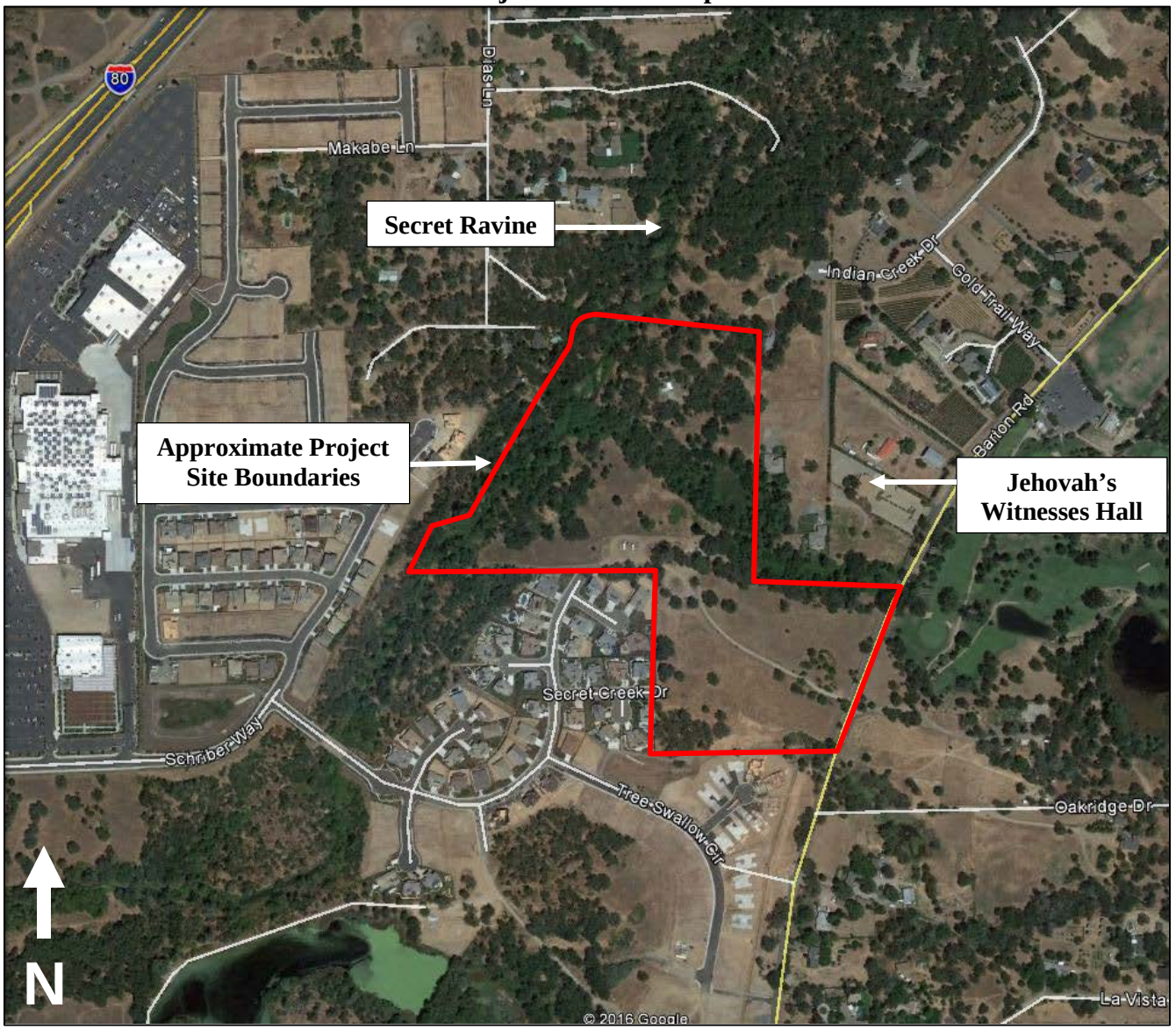
The proposed project would include 63 single-family residential units (see Figure 2). Surrounding land uses include a residential subdivision to the south and southwest, Secret Ravine along the northwestern border of the project site, existing single-family homes, a Jehovah's Witnesses hall, and open space to the north, as well as the Indian Creek Country Club to the northeast. The site is currently designated as Low Density Residential under the City's General Plan and zoned Planned Development Residential (2.5 dwelling units/acre).

Because the proposed project would include residential uses, the project would be considered to introduce sensitive receptors to the area. The nearest existing sensitive receptors would be the existing and under construction single-family residences adjacent to the southern boundary of the project site and the Jehovah's Witnesses Hall to the north.

Construction of the proposed project is anticipated to commence in April 2018 and the project is anticipated to be fully operational in 2019. Approximately 1,800 square feet of existing structures would be demolished and removed from the site during the construction period. The project applicant has indicated that the proposed residential units would not include wood burning fireplaces; however, natural gas fire places would be included in each unit.[1]

[1] Walters, Bruce, Walters Land Planning. Personal Communication [email] with Rod Stinson, Division Manager/Air Quality Specialist, Raney Planning & Management, Inc. October 26, 2016.

Figure 1
Project Location Map



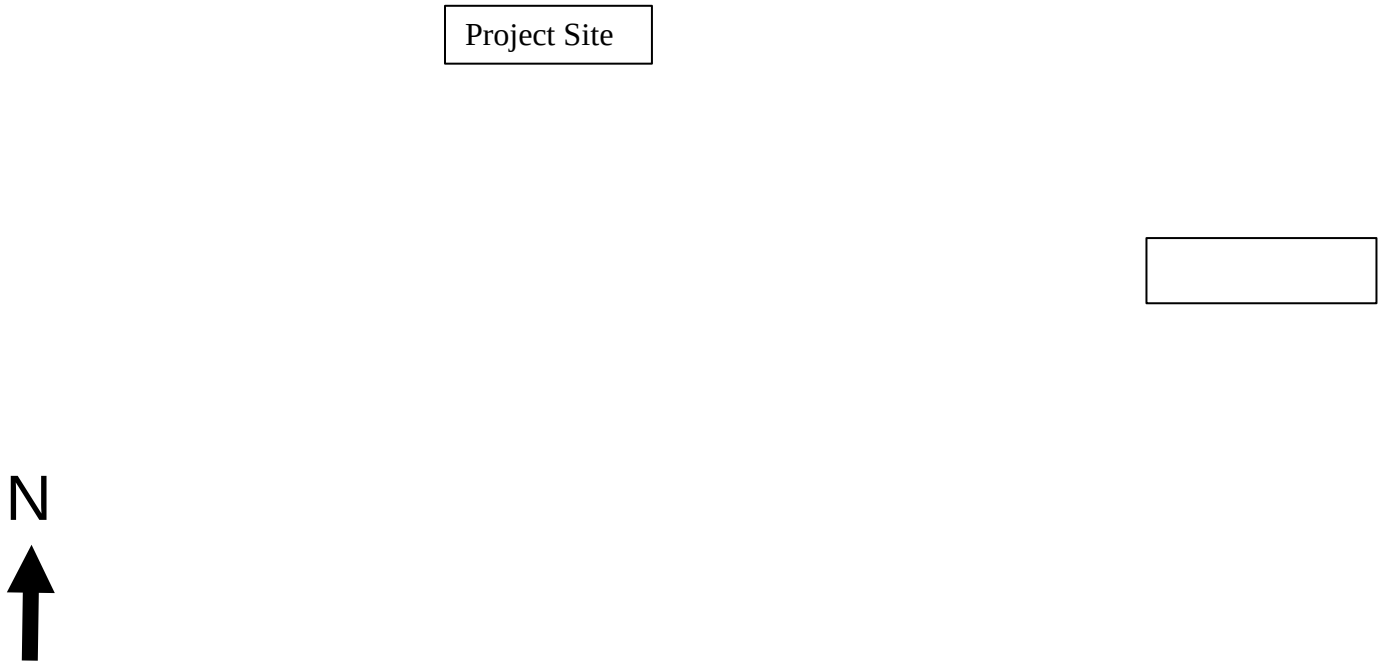

Project Site
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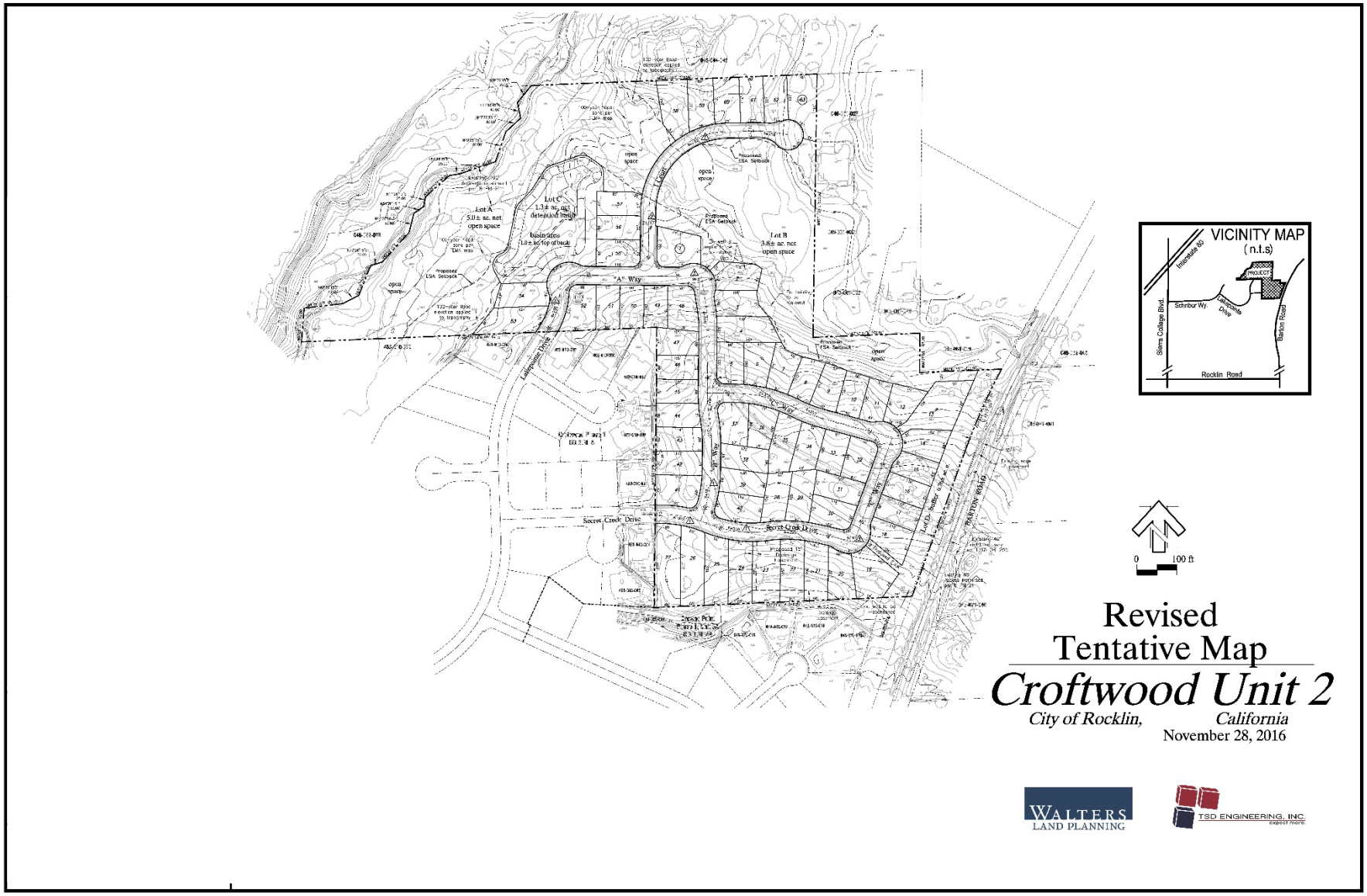
Figure 2
Project Site



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III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	✖	☐
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)?	☐	☐	✖	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	✖	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	✖	☐

Discussion

a,b. The proposed project site is located within the Sacramento Valley Air Basin (SVAB) and is under the jurisdiction of the Placer County Air Pollution Control District (PCAPCD). The SVAB is designated nonattainment for the federal particulate matter 2.5 microns in diameter ($PM_{2.5}$) and the State particulate matter 10 microns in diameter (PM_{10}) standards, as well as for both the federal and State ozone standards. The federal Clean Air Act requires areas designated as federal nonattainment to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures for states to use to attain the national ambient air quality standards (NAAQS). The SIP is periodically modified to reflect the latest emissions inventories, planning documents, rules, and regulations of air basins as reported by the agencies with jurisdiction over them. In compliance with regulations, the PCAPCD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the NAAQS, including control strategies to reduce air pollutant emissions via regulations, incentive programs, public education, and partnerships with other agencies.

The current applicable air quality plan for the proposed project area is the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan), adopted September 26, 2013. The U.S. Environmental Protection Agency (USEPA) determined the motor vehicle emission budgets in the Plan to be adequate and made such findings effective August 25, 2014. On January 9, 2015, the USEPA approved the 2013 Ozone Attainment Plan.

The 2013 Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the CAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the

secondary standard identical to the primary standard. The SVAB remains classified as a severe nonattainment area with an attainment deadline of 2027. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). With the publication of the new NAAQS ozone rules, areas in nonattainment must update their ozone attainment plans and submit new plans by 2020/2021.

General conformity requirements of the regional air quality plan include whether a project would cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS. In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants that the area is designated nonattainment, the PCAPCD adopts recommended thresholds of significance for emissions of PM_{10}, and ozone precursors – reactive organic gases (ROG) and oxides of nitrogen (NO_X). On October 13, 2016, the PCAPCD adopted updated significance thresholds for the aforementioned pollutants.

The significance thresholds, expressed in pounds per day (lbs/day), listed in Table 1 are the PCAPCD's recently updated thresholds of significance for use in the evaluation of air quality impacts associated with proposed development projects. The City of Rocklin, as lead agency, uses the PCAPCD's recommended thresholds of significance for CEQA evaluation purposes. Thus, if the proposed project's emissions exceed the pollutant thresholds presented in Table 1, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

Table 1
PCAPCD Thresholds of Significance

Pollutant	Construction Threshold (lbs/day)	Operational Threshold (lbs/day)
ROG	82	55
NO_X	82	55
PM_{10}	82	82

Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.

Implementation of the proposed project would contribute local emissions in the area during both the construction and operation of the proposed project. The proposed project's short-term construction-related and long-term operational emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 software (CalEEMod) – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data was input into the model

(e.g., land uses, density, construction phases and timing, inherent project design and site features, etc.). For this analysis, construction was assumed to begin in April 2018, and would occur over approximately one and a half years. Project construction would involve the demolition of 1,800 square feet (sf) of existing structures. The proposed project's required compliance with the 2016 California Building Energy Efficiency Standards Code was assumed in the modeling. All CalEEMod results are included as an appendix.

Construction Emissions

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction worker commutes, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes particulate matter (PM) emissions. As construction of the proposed project would generate air pollutant emissions intermittently within the site, and the vicinity of the site, until all construction has been completed, construction is a potential concern because the proposed project is in a non-attainment area for ozone and PM_{10} and $PM_{2.5}$.

The project is required to comply with all PCAPCD rules and regulations for construction, which would be noted on City-approved construction plans. The applicable rules and regulations would include, but not be limited to, the following:

- Rule 202 related to visible emissions;
- Rule 217 related to asphalt paving materials;
- Rule 218 related to architectural coatings;
- Rule 228 related to fugitive dust;
- Rule 501 related to General Permit Requirements; and
- Regulation 3 related to open burning.

As shown in Table 1 above, the PCAPCD threshold of significance for construction is 82 pounds per day for ROG, NO_X, and PM_{10}. Table 2 below presents the estimated construction-related emissions of ROG, NO_X, and PM_{10}, resulting from the proposed project. CalEEMod inherently accounts for applicable PCAPCD rules, with the exception of Rule 218 related to architectural coatings; accordingly, the modeling was adjusted to reflect that the project would use only low volatile organic compound (VOC) paints per PCAPCD rules and regulations.

Table 2 Maximum Unmitigated Construction-Related Emissions		
Pollutant	**Project Emissions (lbs/day)**	**PCAPCD Significance Threshold (lbs/day)**
ROG	16.77	82.0
NO_X	59.60	82.0
PM_{10}	20.58	82.0
Source: CalEEMod, November 2016 (see Appendix).		

As Table 2 indicates, the project's maximum unmitigated construction-related emissions would be below the applicable thresholds of significance. Therefore, construction activities associated with development of the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM. Accordingly, construction of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation, and a less-than-significant impact would occur associated with construction.

Operational Emissions

Operational emissions of ROG, NO_X, and PM_{10} would be generated by the proposed project from both mobile and stationary sources. Day-to-day activities such as the future residents' vehicle trips to and from the project site would make up the majority of the mobile emissions. Emissions would occur from area sources such as natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, fireplaces, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

The project is required to comply with all PCAPCD rules and regulations, such as those listed previously for construction, as well as the following for operations:

- Rule 225 related to wood-burning appliances; and
- Rule 246 related to water heaters.

The estimated operational emissions for the proposed project are presented below in Table 3 below. The modeling was adjusted to reflect the project's use of only low-VOC paints per PCAPCD rules and regulations, inherent site or project design features (i.e., proximity to nearest bus stop), and compliance with applicable regulations (i.e., 2013 CALGreen). Furthermore, the project was assumed to only use natural gas hearths due to the PCAPCD's recommended restriction of wood-burning appliances, and applicant information.[2]

[2] Walters, Bruce, Walters Land Planning. Personal Communication [email] with Rod Stinson, Division Manager/Air Quality Specialist, Raney Planning & Management, Inc. October 26, 2016.

Table 3 Unmitigated Operational Emissions		
Pollutant	**Project Emissions (lbs/day)**	**PCAPCD Significance Threshold (lbs/day)**
ROG	5.04	55
NO_X	6.01	55
PM_{10}	3.67	82
Source: CalEEMod, November 2016 (see Appendix).		

As Table 3 indicates, the project's maximum unmitigated operational emissions would be below the applicable thresholds of significance. Therefore, operations associated with development of the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM_{10}.

Conclusion

The proposed project's construction and operational emissions would not exceed the applicable thresholds of significance. In addition, the project would be required to comply with all applicable PCAPCD rules and regulations. Because the project would not exceed the thresholds of significance, the proposed project would not substantially contribute to the region's nonattainment status of ozone or PM_{10}. Therefore, implementation of the proposed project would not violate an air quality standard, contribute to an existing or projected air quality violation, and thus would not interfere with any applicable air quality plans, such as the 2013 Ozone Attainment Plan. As a result, a ***less-than-significant*** impact related to air quality would occur.

c. A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The nonattainment status of regional pollutants, including ozone and PM, is a result of past and present development, and, thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

To improve air quality and attain the health-based standards, reductions in emissions are necessary within nonattainment areas. The project is part of a pattern of urbanization occurring in the greater Sacramento ozone nonattainment area. The growth and combined vehicle usage, and business activity within the nonattainment area from the project, in combination with other past, present, and reasonably foreseeable projects within Rocklin and surrounding areas, could either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset emission increases. Thus, the project could cumulatively contribute to regional air quality health effects through emissions of criteria air pollutants.

The PCAPCD recommends using the region's existing attainment plans as a basis for analysis of cumulative emissions. If a project would interfere with an adopted attainment plan, the project would inhibit the future attainment of AAQS, and thus result in a

cumulative impact. As discussed above, the PCAPCD's recommended thresholds of significance for ozone precursors and PM_{10} are based on attainment plans for the region. Thus, the PCAPCD concluded that if a project's ozone precursor and PM_{10} emissions would be less than PCAPCD project-level thresholds, the project would not be expected to conflict with any relevant attainment plans, and would not result in a cumulatively considerable contribution to a significant cumulative impact. As a result, the PCACPD established operational phase cumulative-level emissions thresholds identical to the operational thresholds identified above, in Table 1.

As shown in Table 3 above, the proposed project would not result in emissions in exceedance of the applicable thresholds of significance for ozone precursors or PM_{10}. Accordingly, impacts related to the cumulative emissions of criteria pollutants for which PCAPCD is in non-attainment would be considered ***less than significant***.

d. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The proposed project would involve the creation of new housing and, thus, would be considered a sensitive receptor. The nearest existing sensitive receptors would be the single-family residences adjacent to the southern and northeastern boundaries of the project site and the Jehovah's Witnesses Hall to the north.

The major pollutant concentrations of concern are localized Carbon Monoxide (CO) emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

<u>Localized CO Emissions</u>

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the project would be expected to increase local CO concentrations. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. The statewide CO Protocol document identifies signalized intersections operating at Level of Service (LOS) E or F, or projects that would result in the worsening of signalized intersections to LOS E or F, as having the potential to result in localized CO concentrations in excess of the State or federal AAQS, as a result of large numbers of cars idling at stop lights.

In accordance with the State CO Protocol, the PCAPCD recommends further analysis for localized CO concentrations if the project would cause a signalized intersection to be degraded from an acceptable LOS (i.e., LOS A, B, C, or D) to an unacceptable LOS (i.e.,

LOS E or F), or substantially worsen an already existing unacceptable peak-hour LOS at an intersection, as determined by a traffic study. Substantially worsen is defined by PCAPCD as an increase in delay by 10 seconds or more (or by five percent).

To assess potential traffic impacts that could result from operation of the proposed project, a *Traffic Impact Analysis* was prepared for the proposed project by KD Anderson & Associates.[3] The *Traffic Impact Analysis* included analysis of the proposed project's potential impacts on existing levels of traffic as well as on traffic in the project area under cumulative growth conditions. Traffic in the project area was determined to be higher during the cumulative project scenarios, and because localized CO concentrations are highest when background levels of traffic are highest, the proposed project would have the greatest potential to expose sensitive receptors to excess localized CO concentrations during the future cumulative traffic scenarios. Under cumulative conditions, the *Traffic Impact Analysis* concluded that the proposed project would not result in the degradation of any nearby intersections from an acceptable LOS to an unacceptable LOS. Additionally, the *Traffic Impact Analysis* determined that operation of the proposed project would not substantially worsen traffic operations by resulting in an increase in delay of 10 or more seconds at any intersections predicted to operate at an unacceptable LOS in the cumulative traffic conditions. As such, the proposed project does not meet PCAPCD's screening thresholds for localized CO emissions, and thus the project would not be anticipated to result in the exposure of sensitive receptors to substantial localized concentrations of CO.

TAC Emissions

Another category of environmental concern are TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. Construction-related activities could result in the generation of TACs, specifically diesel particulate matter (DPM), from on-road haul trucks and off-road equipment exhaust emissions. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project, particularly so for the proposed project, as the construction activities associated with the proposed project would occur over an approximately 1.5-year period. All construction equipment and operation thereof would be regulated per the State's In-Use Off-Road Diesel Vehicle Regulation.

[3] KD Anderson & Associates. *Traffic Impact Analysis for 4588 Barton Road Subdivision*. January 9, 2017.

Project construction would also be required to comply with all applicable PCAPCD rules and regulations, particularly associated with permitting of air pollutant sources. In addition, construction equipment would operate intermittently throughout the course of a day, would be restricted to daytime hours per the City's Noise Ordinance, and would likely only occur over portions of the project site at a time. Therefore, the proposed project would not be anticipated to subject nearby existing sensitive receptors to substantial DPM concentrations.

The project does not involve long-term operation of any stationary diesel engine or other major on-site stationary source of TACs. The CARB's Handbook includes distribution centers with associated diesel truck trips of more than 100 trucks per day as a source of substantial TAC emissions, and recommends siting new sensitive land uses a minimum of 1,000 feet away from such uses. The nearest distribution center to the proposed project site would be the UNFI facility at 1101 Sunset Boulevard in Rocklin, which is located well outside of the CARB's screening distance at over 4.5 miles west of the proposed project site. While the UNFI facility is the closest distribution center to the project site, the Walmart facility to the west of the project site also attracts heavy-duty diesel truck trips. However, the Walmart retail store is also located outside of the CARB's screening distance, and is approximately 1,200 feet west of the project site. Therefore, the proposed project would not involve siting new sensitive receptors within 1,000 feet of an existing distribution center.

The CARB, per its Handbook, recommends the evaluation of emissions when freeways are within 500 feet of sensitive receptors. Any project placing sensitive receptors within 500 feet of a major roadway or freeway may have the potential to expose those receptors to DPM. The edge of the nearest travel lane of the nearest freeway, Interstate 80, is located approximately 2,000 feet west of the project site. Thus, the project would not be subject to substantial DPM emissions associated with freeway traffic.

The CARB does not consider train tracks to be a significant source of TAC emissions; however, rail yards are considered a significant source of TACs by the CARB due to the substantial amount of trains and idling trains. The CARB recommends a setback of 1,000 feet from a major rail yard, as well as other limitations and mitigation approaches for sensitive land uses within one mile. The project site is located over six miles northeast of the nearest Union Pacific Railroad (UPRR) rail yard and is outside of the DPM isotopes associated with the rail yard emissions. Therefore, the project would not be affected by DPM emissions associated with a rail yard.

Asbestos-Containing Building Material, and Lead Based Paint

Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be "fibrous" and, through processing, can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. They are also long, thin and flexible, so they can even be woven into cloth. Because of these qualities, asbestos was considered an ideal product and has been used in thousands of

consumer, industrial, maritime, automotive, scientific and building products. However, later discoveries found that, when inhaled, the material caused serious illness.

Asbestos occurs naturally in many portions of Placer County, but, according to the California Geologic Survey's *Special Report 190*, the project site is located in an area not likely to contain naturally occurring asbestos, and therefore, project construction is unlikely to disturb naturally occurring asbestos.[4]

For buildings constructed prior to 1980, the Code of Federal Regulations (29 CFR 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as "presumed asbestos-containing material" unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act. Asbestos-containing materials could include, but are not limited to, plaster, ceiling tiles, thermal systems insulation, floor tiles, vinyl sheet flooring, adhesives, and roofing materials. The age of the existing structures on the project site is currently unknown; because the existing structures could have been constructed prior to 1980, the potential exists that asbestos-containing materials were used in constructing the structures.

Lead Based Paint (LBP) is defined as any paint, varnish, stain, or other applied coating that has one milligram per cubic centimeter or greater (5,000 micrograms per gram or 5,000 parts per million) of lead by federal guidelines. Lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. In buildings constructed after 1978, LBP is unlikely to be present. Structures built prior to 1978 and especially prior to the 1960s should be expected to contain LBP. If the existing structures on the project site were constructed prior to 1978, the potential would exist that LBPs were used in the on-site structures.

If asbestos-containing building materials or LBPs were used in the construction of the existing structures, demolition activities related to the proposed project could create asbestos- or lead-containing dust, which could become airborne. Construction workers and nearby sensitive receptors at the Jehovah's Witnesses Hall and existing residences could become exposed to such airborne TACs. Consequently, the proposed project could generate TACs during demolition, which would potentially impact nearby sensitive receptors.

Conclusion

Based on the above discussion, the proposed project is not located near any substantial sources of TACs, and operation of the proposed project would not expose the future on-site or nearby sensitive receptors to significant pollutant concentrations. However, because the age of the existing structures is currently unknown, the proposed project could have the potential to create asbestos- or lead-containing dust during demolition. Therefore, the proposed project would result in a ***potentially significant*** impact related to the exposure of

[4] Department of Conservation, California Geologic Survey. *Special Report 190, Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California*. 2006.

sensitive receptors to substantial concentrations of pollutants, specifically to lead or asbestos.

Mitigation Measure(s)
Implementation of the following mitigation measures would ensure that the above impacts are reduced to a *less-than-significant* level.

III-1 *Prior to issuance of a demolition permit for any on-site structures, if the on-site structures are found to be constructed prior to 1980, the Developer shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review, to the Economic and Community Development Director, an asbestos and lead survey. If asbestos- or lead-containing materials are not discovered during the survey, further mitigation related to ACMs or lead containing materials will not be required. If asbestos- and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos- and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety Administration (Cal-OSHA) regulations and disposed of in accordance with all California Environmental Protection Agency regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City and the Placer County Department of Environmental Health for review and approval.*

e. Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project would not introduce any such land uses and is not located in the vicinity of any existing or planned such land uses. In addition, residential uses are not typically associated with the creation of objectionable odors.

Diesel fumes from construction equipment could be found to be objectionable; however, operation of construction equipment would be regulated by PCAPCD rules and regulations, restricted to certain hours per the Placer County Code, Section 9.36.030(A)(7), would occur intermittently throughout the course of a day, and be temporary in nature. For the aforementioned reasons, the project would not result in any noticeable objectionable odors associated with construction.

PCAPCD Rule 205, Nuisance, addresses the exposure of "nuisance or annoyance" air contaminant discharges, including odors, and provides enforcement of odor control. Rule 205 is complaint-based, where if public complaints are sufficient to cause the odor source to be considered a public nuisance, then the PCAPCD is required to investigate the identified source, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications to correct the nuisance condition. Thus, although not anticipated, if odor or air quality complaints are made upon development of the proposed project, the PCAPCD would be required (per PCAPCD Rule 205) to ensure that such complaints are addressed and mitigated, as necessary.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors affecting a substantial number of people, and impacts would be ***less than significant***.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	✖	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	✖	☐

Discussion

a,b. Emissions of Greenhouse Gases (GHGs) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

In recognition of the global scale of climate change, California has enacted several pieces of legislations in an attempt to curb GHG emissions and slow global climate change. Specifically, Assembly Bill (AB) 32, and more recently Senate Bill (SB) 32, have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), which was approved in 2008 and updated in 2014. The Scoping Plan provides the outline for actions to reduce California's GHG emissions and achieve the emissions reductions targets required by AB 32 and SB 32. In concert with statewide efforts to reduce GHG emissions, air pollution control districts throughout the State have implemented their own policies and plans to achieve emissions reductions in line with the Scoping Plan and emissions reductions targets.

Implementation of the proposed project would contribute to cumulative increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions, from vehicles traveling to and from the project site. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

On October 13, 2016, the PCAPCD adopted GHG emissions thresholds to help the district attain the GHG reduction goals established by AB 32 and SB 32. The updated thresholds begin with a screening emission level of 1,100 MT CO_2e/yr. Any project below the 1,100 MT CO_2e/yr threshold is judged by the PCAPCD as having a less-than-significant impact

on GHG emissions within the District, and thus would not conflict with any state or regional GHG emissions reduction goals. Projects that would result in emissions above the 1,100 MT CO_2e/yr threshold would not necessarily result in substantial impacts, if certain efficiency thresholds are met. The efficiency thresholds, which are calculated on a per capita or square foot basis, are presented in Table 4.

Table 4
PCAPCD Operational Thresholds of Significance

Efficiency Thresholds			
Residential (MT CO_2e/capita)		**Non-Residential (MT CO_2e/1,000 sf)**	
Urban	**Rural**	**Urban**	**Rural**
4.5	5.5	26.5	27.3

Source: Placer County Air Pollution Control District. Placer County Air Pollution Control District Policy. Review of Land Use Projects Under CEQA. October 13, 2016.

Projects that fall below the 1,100 MT CO_2e/yr threshold or meet the efficiency thresholds are considered to be in keeping with statewide GHG emissions reduction targets, which would ensure that the proposed project would not inhibit the State's achievement of GHG emissions reductions. Thus, projects which involve emissions below the 1,100 MT CO_2e/yr threshold or below the efficiency thresholds presented in Table 4, are considered to result in less-than-significant impacts in regards to GHG emissions within the District and thus would not conflict with any state or regional GHG emissions reduction goals. Finally, the PCAPCD has also established a Bright Line Cap, which shall be the maximum limit for any proposed project. The Bright Line Cap is 10,000 MT CO_2e/yr for all types of projects.

Buildout of the proposed project would contribute to increases of GHG emissions that are associated with global climate change during construction and operation. The proposed project's short-term construction-related and long-term operational GHG emissions are presented below.

Short-Term Construction GHG Emissions

Construction-related GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change, as global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. However, the proposed project's construction GHG emissions have been estimated and compared to the PCAPCD's operational thresholds of significance for informational purposes. The proposed project's total construction-related GHG emissions are presented in Table 5. The construction modeling assumptions are described in the Air Quality section above.

Table 5
Maximum Unmitigated Project Construction GHG Emissions

	Construction GHG Emissions (MT CO_2e/yr)	**Threshold of Significance (MT CO_2e/yr)**

Maximum Annual Construction-related GHG Emissions	456.34	1,100
Source: CalEEMod, November 2016 (see Appendix).		

As shown in Table 5 above, the proposed project's total unmitigated construction-related GHG emissions would be below the applicable 1,100 MT CO_2e/yr threshold. Accordingly, the proposed project would not be expected to have a significant impact related to GHG emissions during construction.

Long-Term Operational GHG Emissions

The modeling assumptions for operational GHG emissions are discussed in the Air Quality section of this report. The proposed project's estimated GHG emissions are presented in Table 6.

Table 6
Unmitigated Project Operational GHG Emissions

Emission Source	Annual GHG Emissions ($MTCO_2e$/yr)
Area	45.71
Energy	143.89
Mobile	673.48
Solid Waste	29.48
Water	10.94
TOTAL ANNUAL GHG EMISSIONS	**903.50**
Source: CalEEMod, November 2016 (see Appendix).	

As shown in the table, the proposed project would result in operational GHG emissions of 903.50 MT CO_2e/yr, which would be below the 1,100 MT CO_2e/yr threshold of significance. Therefore, the proposed project would not be expected to result in a significant impact related to operational GHG emissions.

Based on the above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; and impacts would not be cumulatively considerable and therefore would be considered ***less than significant***.

APPENDIX

CALEEMOD MODELING RESULTS