Appendix B:
2018 Air Quality and Greenhouse Gas Analysis for the Spotorno Ranch Development

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FIRSTCARBON SOLUTIONS™

Memorandum

Date: March 22, 2021

To: Ellen Clark, Community Development Director, City of Pleasanton

From: Phil Ault, Senior Scientist

Subject: 2018 Air Quality and Greenhouse Gas Analysis for the Spotorno Ranch Development

FirstCarbon Solutions (FCS) conducted an analysis for a previously-proposed Spotorno Ranch development project in 2018 that included an assessment of the air quality and greenhouse gas impacts for the proposed project. The proposed project in 2018 consisted of 39 single-family homes on the project site. The current proposed project remains on the same site but has been reduced to 22 single-family homes. The 2018 analysis represents a conservative analysis compared to the current proposed project as the overall level of air quality and greenhouse gas impacts would be reduced due to reduced construction and operational activities such as vehicle traffic. Additionally, emissions from vehicles, housing, and construction equipment are steadily being reduced due to regulations encouraging or requiring increased energy efficiency, lower engine emissions, and reduced traffic congestion among other improvements. Therefore, the analysis completed in 2018 is presented in summary below with the understanding that all impact findings in 2018 would be the same or less for the current proposed project.

AIR QUALITY AND GREENHOUSE GAS IMPACTS

Air Quality Assessment

The City of Pleasanton in Alameda County is located within the San Francisco Bay Area Air Basin, which is regulated by the EPA, the California Air Resources Board (ARB), and the Bay Area Air Quality Management District (BAAQMD). Pollutants of concern within the Alameda County include ozone (0_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), inhalable coarse particles (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Impact Analysis

Impact AIR-1. Consistency with Air Quality Management Plan

The Air Basin is designated non-attainment for state standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter (PM_{10}), annual PM_{10}, and annual fine particulate matter ($PM_{2.5}$).[1] The Air Basin is also non-attainment for the federal ozone and $PM_{2.5}$ federal standards. A project would be judged to conflict with or obstruct implementation of the regional Air Quality Plan (AQP) if it would result in substantial new regional emissions not foreseen in the air quality management planning process.

The BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis. Therefore, the following criteria will be used for determining a project's consistency with the AQP:

- **Criterion 1:** Does the project support the primary goals of the AQP?
- **Criterion 2:** Does the project include applicable control measures from the AQP?
- **Criterion 3:** Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1: Support Primary Goals of AQP

Consistency with the Assumptions in AQP

The primary way of determining whether a project is consistent with the AQP's assumptions is to determine if the General Plan is consistent with the growth assumptions used in the AQPs for the Air Basin, and if the project is consistent with the applicable General Plan. The proposed project is generally consistent with the applicable goals and policies of the City of Pleasanton General Plan and the Happy Valley Specific Plan (HVSP). The 2005–2025 General Plan designates the project site as Low Density Residential, Medium Density Residential, and Open Space—Public Health and Safety. The HVSP designates the project site as PUD—Medium Density Residential (PUD-MDR); PUD—Semi-Rural Density Residential (PUD-SRDR); and PUD—Agriculture/Open Space (PUD-AG/OS).

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[1] BAAQMD. 2017. Air Quality Standards and Attainment Status. January. Website: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed March 30, 2018.

The proposed project would result in an increase of housing units over the existing allowable units for the Spotorno Flat Area. However, the redesignation of the PUD-MDR designated portion of the Spotorno Upper Valley Area to Open Space/Agriculture would result in a decrease of 75 units in the Spotorno Upper Valley Area and would result in the buildout of 58 fewer homes than initially anticipated by the HVSP.

As such, the proposed project would not result in a substantial unplanned increase in population, employment, or regional growth in vehicle miles traveled. Therefore, emissions related to development of the project site would have been included in growth forecasts for the current AQP as Low Density Residential, Medium Density Residential, and Open Space—Public Health and Safety, and implementation of the project would not result in substantial new regional emissions not foreseen in the air quality management planning process.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is ensuring the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. This measure is determined by evaluating the project in view of the regional and localized thresholds identified by the District for Regional and Local Air Pollutants, which are used in this SEIR to evaluate Impacts AIR-2 through AIR-5. Buildout of the proposed project would not be in violation with regional and localized thresholds after implementation of Mitigation Measure (MM) AIR-2 and AIR-4, and therefore is consistent with Criterion 1 with incorporated mitigation.

Criterion 2. Include Applicable AQP Control Measures

The 2017 Clean Air Plan (2017 CAP) aims to reduce air pollutants and greenhouse gases (GHGs) at the local and regional level and includes a number of control measures to protect the climate and promote mixed use, compact development to reduce vehicle emissions and human exposure to pollutants from stationary and mobile sources. None of these stationary or mobile source control measures directly apply to the proposed project, therefore, the proposed project would generally support the overall goals of the CAP. However, it is expected that any future residents who would use transit would drive to transit stations as continuous pedestrian connections are not provided to transit stops from the project site. The project would be consistent with all applicable measures in the 2017 CAP including energy efficiency, renewable energy, and urban heat island mitigation and shade tree planting. Therefore, the proposed project would include applicable control measures from the 2017 CAP and is consistent with Criterion 2.

Criterion 3. Disrupt or Hinder Implementation of any AQP Control Measures

The project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. Because the project would not disrupt or hinder implementation of any AQP control measures, the project is therefore consistent with Criterion 3.

Impact AIR-2. Local Significant Threshold Analysis

The estimation of the project's local construction and operational emissions focuses on the emissions and their impacts that the project generates on the local area surrounding the project. The localized assessment was performed separately for construction and operation.

Construction

Project construction would require general site clearing and grading/earthwork activities during construction. Emissions from construction activities are generally short-term in duration, but may still cause adverse air quality impacts. The project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust as PM_{10} and $PM_{2.5}$. The BAAQMD does not recommend a numerical threshold for dust particulate matter missions, but rather uses Best Management Practices (BMPs) to control fugitive dust. If appropriate BMP emissions control measures are implemented, then fugitive dust emissions during construction are not considered significant.

Since the project does not currently include any dust control measures, the fugitive dust control measures identified in the BAAQMD's Guidelines must be included to reduce localized dust impacts to less than significant. MM AIR-2 requires the application of BMPs for fugitive dust control. Implementation of MM AIR-2 ensures implementation and enforcement of the BMPs and thereby reduces the project's construction-generated fugitive dust impact to less than significant. Therefore, with mitigation, short-term construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant.

Operation

Localized high levels of CO (CO hotspot) are associated with traffic congestion and idling or slow-moving vehicles. The BAAQMD recommends a screening analysis to determine if a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is not necessary. The project would result in a less than significant impact to air quality for local CO if one of the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; or
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The project meets at least one of the three screening criteria; therefore, the project would not result in a significant impact to air quality for local CO emissions.

Impact AIR-3. Regional Significance Threshold Analysis

The regional estimation of regional construction and operational emissions quantify the project's emission burden throughout the region. The regional assessment was performed separately for construction and operation.

Construction

Off-road construction equipment is a large source of NO_X and DPM in the Air Basin. NO_X is an ozone precursor pollutant that contributes to regional ozone formation. Construction activities associated with development activities contemplated by the project would include site preparation, grading, paving, building construction, and architectural coatings. Generally, the most substantial air pollutant emissions would be dust generated from site preparation and grading. Construction activities would also temporarily create emissions of equipment exhaust and other air contaminants.

Table 1 summarizes the unmitigated construction-generated emissions in annual tons, while Table 2 provides the unmitigated average daily emissions rates per construction year for the project. Construction emissions are assessed against the applicable BAAQMD threshold in Table 2.

Table 1: Regional Construction Air Pollutant Emissions by Activity (Unmitigated)

Construction Phase	Tons/Year			
	VOC	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
2018				
Site Preparation	0.05	0.48	0.03	0.02
Grading	0.12	1.34	0.06	0.05
Building Construction (2018)	0.00	0.01	<0.01	<0.01
Total 2018 Construction Emissions	*0.16*	*1.84*	*0.09*	*0.08*
2019				
Building Construction (2019)	0.36	3.25	0.17	0.16
Total 2019 Construction Emissions	*0.36*	*3.25*	*0.17*	*0.16*
2020				
Building Construction (2020)	0.22	2.02	0.10	0.10
Paving	0.03	0.25	0.01	0.01
Architectural Coating	1.06	0.03	<0.01	<0.01
Total 2020 Construction Emissions	*1.31*	*2.29*	*0.12*	*0.11*
Total Construction Emissions	**1.83**	**7.38**	**0.37**	**0.35**

Construction Phase	Tons/Year			
	VOC	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)

Notes:
VOC = volatile organic compounds ;NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
< = less than
Calculations use unrounded numbers presented in the CalEEMod output.
Source: CalEEMod

Table 2: Unmitigated Construction Criteria Air Pollutants Emissions (Average Daily Rate)

Parameter	Air Pollutants			
	VOC	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Total Emissions (total tons)	1.83	7.38	0.37	0.35
Total Emissions (total lbs)	3,666	14,756	748	700
Average Daily Emissions (lbs/day)[2]	6.38	25.66	1.30	1.22
Significance Threshold (lbs/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	No	No	No	No

Notes:
[1] Calculated by dividing the total number of pounds by the total 575 working days of construction for the duration of construction (2018-2020).
Calculations use unrounded totals.
VOC = volatile organic compounds; NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
lbs = pounds
Source of thresholds: BAAQMD 2017
Source of emissions: CalEEMod

Operation

As previously discussed, the pollutants of concern include VOC, NOX, PM10, and PM2.5. Project operational emissions were estimated using the CalEEMod model version 2016.3.2. The trip generation rates are from the Spotorno Property Transportation Assessment prepared for the project by Fehr & Peers (Appendix I). In order to provide a conservative estimate, 2020 was used as the operational year when all units are expected to be completed and occupied. The daily operational emissions were modeled for summer and winter seasons. The estimated highest daily operational results for each pollutant and season are compared with the BAAQMD's maximum daily rate operational threshold. The unmitigated annual emissions from project operations are compared the BAAQMD's annual operational threshold. Both long-term operational impacts associated with criteria pollutant emissions would be less than significant.

Impact AIR-4. Sensitive Receptors

This impact addresses whether the project would expose sensitive receptors to asbestos, construction-generated fugitive dust (PM_{10} and $PM_{2.5}$), construction-generated DPM, operational-related TACs, or operational CO hotspots.

Construction Localized Fugitive Dust

Activities associated with site preparation and construction would generate short-term emissions of fugitive dust resulting in increased dust fall and locally elevated levels of PM_{10} and $PM_{2.5}$ downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. However, as addressed in Impact AIR-2, MM AIR-2 is included to ensure that the current BMPs would be implemented to reduce fugitive dust emissions from construction activities to less than significant. Implementation of MM AIR-2 would ensure impacts related to localized fugitive dust would remain less than significant.

Construction Generation of Toxic Air Contaminants

Estimation of Project-Level Construction DPM Emissions

The DPM construction emissions (as $PM_{2.5}$ exhaust emissions) were estimated using the CalEEMod model, version 2016.3.2. Table 3 summarizes annual construction $PM_{2.5}$ emissions without mitigation measures.

Table 3: Unmitigated Project DPM (as PM2.5 Exhaust) Construction Emissions

Phases	On-site DPM (grams/m^2-sec)	Off-site DPM From SR-12 West to project (grams/sec)
Annual Construction Emissions (No Mitigation)		
2018	2.94E-07	1.08E-06
2019	1.48E-07	2.85E-05
2020	1.04E-07	1.43E-05

As discussed below, mitigation was required for this impact. Table 4 summarizes annual construction $PM_{2.5}$ emissions with mitigation measures, specifically Tier III engines for construction equipment.

Table 4: Mitigated Project DPM (as PM2.5 Exhaust) Construction Emissions

Phases	On-site DPM (grams/m^2-sec)	Off-site DPM from SR-12 West to project (grams/sec)
Annual Construction Emissions (Tier III Mitigation)		
2018	1.46E-07	1.08E-06
2019	1.01E-07	2.85E-05

Phases	On-site DPM (grams/m^2-sec)	Off-site DPM from SR-12 West to project (grams/sec)
2020	8.86E-08	1.43E-05
Source: CalEEMod and FirstCarbon Solutions		

Estimates of Health Risks and Hazards from Project Construction

The estimated health and hazard impacts at the maximum impacted off-site sensitive receptor from the project's construction emissions are provided in Table 5. The maximum impacted off-site sensitive receptor (MIR) was found at an existing residence located approximately 68 feet south of the site at 2315 Westbridge Lane.

Table 5: Estimated Health Risks and Hazards During Construction—Unmitigated

Health Impact Metric	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Risks and Hazards at the Maximum Impacted Off-site Sensitive Receptor (MIR): [1]			
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Infants	**16.5**	0.01	0.1
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Child	2.5	0.01	0.1
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Adult	0.4	0.01	0.1
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Individual Source Threshold?	**Yes (Infants)**	No	No

Notes:
1 Maximum impacted sensitive receptor is a residence located 2315 Westbridge Lane, which is 68 feet south of the project site.
2 Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.
Source: CalEEMod and FirstCarbon Solutions

As shown in Table 5, the cancer risks for infants at the MIR would exceed the BAAQMD's recommended threshold of significance for cancer risk. Therefore, mitigation is required to reduce potential impacts to nearby sensitive receptors from project construction.

MM AIR-4 would require all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors be equipped with engines meeting the EPA Tier III off-road engine emission standards. This would reduce cancer risks and hazards associated with construction emissions. Table 6

summarizes the project's estimated cancer risks and hazard impacts at the MIR from the project's construction emissions with the application of Tier III mitigation.

Table 6: Estimated Health Risks and Hazards During Construction—Tier III Mitigation

Health Impact Metric	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Risks and Hazards at the Maximum Impacted Off-site Sensitive Receptor (MIR):[1]			
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Infants	9.6	0.01	0.04
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Child	1.6	0.01	0.04
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Adult	0.2	0.01	0.04
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Individual Source Threshold?	No	No	No

Notes:
1 Maximum impacted sensitive receptor is a resident located 2315 Westbridge Lane, which is 68 feet south of the project site.
2 Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.
Source: CalEEMod and FirstCarbon Solutions

As noted in Table 6, the project's construction emissions would not exceed the BAAQMD's significance threshold at the MIR after implementation of MM AIR-4. Therefore, with implementation of Tier III mitigation, the project's construction emissions would not result in significant health impacts to nearby sensitive receptors.

Estimates of Health Risks and Hazards from Project Operation

The proposed project involves the construction and development of 39 single-family within a 31-acre lot and would permanently preserve approximately 80 acres as open space. The portion of the project to be developed is designed for residential uses, and there would be no on-site TAC sources during operation. Unlike warehouses or distribution centers, the daily vehicle trips generated by the project would be generated by passenger vehicles. Because nearly all passenger vehicles are gasoline-combusted, the project would not generate significant amount of DPM emissions during operation. Therefore, the project would not result in significant health impacts to nearby sensitive receptors during operation.

Cumulative Health Risks

The cumulative impact assessment quantified the cumulative impacts from existing TAC emission sources located within 1,000 feet of the project site in addition to the maximum TAC emissions from the project. There are no existing TAC sources (local roadway, stationary sources and freeways) located within 1,000 feet of the project site boundary. In addition, the project's construction and operational-related health risk

impacts would not exceed BAAQMD's project-level significance of thresholds. Therefore, the cumulative health impacts would not exceed the BAAMQD's recommended cumulative health significance thresholds. Impacts would be less than significant.

Asbestos

Structures to be demolished sometimes contain asbestos-containing materials; however, the project does not propose demolition of existing buildings. Therefore, construction of the project would not expose nearby sensitive receptors to asbestos through demolition of existing buildings.

The Department of Conservation, Division of Mines and Geology (DMG) published a guide for generally identifying areas that are likely to contain naturally occurring asbestos (NOA). The associated DMG map indicates that there are several locations within Alameda County that are likely to contain NOA; however, the closest of these sites is located greater than 5 miles from the project site.[2] Considering this information, the project would not expose nearby sensitive receptors or future residents to substantial amounts of asbestos and impacts relating to exposing sensitive receptors to asbestos would be less than significant.

Operational CO Hotspot

As addressed in Impact AIR-2, the project would not create a CO hotspot and would result in a less than significant impact for to air quality for local CO.

Impact AIR-5. Objectionable Odors

Odors can cause a variety of responses. The impact of an odor often results from interacting factors such as frequency (how often), intensity (strength), duration (time), offensiveness (unpleasantness), location, and sensory perception.

Construction

Diesel exhaust and VOCs would be emitted during construction of the project resulting from heavy-duty construction equipment and asphalt paving activities, both of which could be objectionable odors to some populations. However, emissions would disperse rapidly from the site and construction activities would be relatively low in intensity. Therefore, it is not anticipated that construction-related activities would create objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Operation

Land uses considered associated with odors typically include agricultural operations (dairies, feedlots, etc.), landfills, wastewater treatment plants, refineries, and other types of industrial land uses. The project does not propose any of these land uses, or other land uses typically associated with emitting objectionable odors. During operation of the project, potential sources of odor would primarily consist

[2] Department of Conservation, Division of Mines and Geology. 2000. A General Location Guide for Ultramafic Rocks in California—Areas More likely to Contain Naturally Occurring Asbestos. August. Website: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed March 30, 2018.

of vehicles travelling to and from the site. These occurrences would not produce a significant number of odors; therefore, odors generated from project operations would be less than significant.

Air Quality Mitigation

MM AIR-2 During construction, the following air pollution control measures shall be implemented:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, or more as needed.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads and surfaces shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks shall be paved as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and person to contact both at the City of Pleasanton and at the office of the General Contractor regarding dust complaints. This person shall respond and take corrective action within 2 business days of a complaint or issue notification. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-4 The developer or project Applicant shall ensure all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors is equipped with engines meeting the EPA Tier III off-road engine emission standards. The construction contractor shall maintain a log of equipment use at the construction site with make, model, serial number, and certification level of each piece of construction equipment that will be available for review by the City's building inspection staff.

Greenhouse Gas Assessment

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether greenhouse emissions impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (See Impact GHG-1 below.)

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? (See Impact GHG-2 below.)

While the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b), the BAAQMD recommends that its quantitative and qualitative air pollution thresholds be used to determine the significance of project emissions. These thresholds are discussed under each impact section below.

Greenhouse Gas Emissions

BAAQMD provides multiple options in its 2017 CEQA Guidelines for project-level GHG generation from project operation. BAAQMD does not presently provide a construction-related GHG generation threshold, but it does recommend that construction-generated GHGs be quantified and disclosed. BAAQMD also recommends that lead agencies (in this case, the City of Pleasanton) make a determination of the level of significance of construction-generated greenhouse gas emissions in relation to meeting AB 32 GHG reduction goals. The lead agency is also encouraged to incorporate best management practices to reduce GHG emissions during project construction, as feasible and applicable.

BAAQMD's project-level significances threshold for operational GHG generation was deemed appropriate to use when determining the project's potential GHG impacts. The thresholds suggested by BAAQMD for project-level operational GHG generation are as follows:

- Compliance with a qualified GHG Reduction Strategy, or
- 1,100 MT CO_2e/year, or
- 4.6 metric tons of CO_2 equivalent per service population (employees plus residents) per year.

BAAQMD's Air Quality Guidelines state that if annual emissions of GHG exceed the thresholds, the project would result in a cumulatively considerable significant impact to global climate change. Conversely, if the project is less than any one of the thresholds identified above, then the project would result in a less than significant cumulative impact to global climate change. The estimated annual operational emissions were compared with the 1,100 MT CO_2e/year significance threshold to determine significance for this criterion.

Construction

The project would emit GHG emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. As previously indicated, BAAQMD does not presently provide a construction-related GHG generation threshold but recommends that construction-generated GHGs be quantified and disclosed. BAAQMD also recommends that lead agencies (in this case, the City of Pleasanton) make a determination of the level of significance of construction generated GHG emissions in relation to meeting AB 32 GHG reduction goals. Total GHG emissions generated during all phases of construction were combined and are presented in Table 7. As a conservative estimate, construction was

assumed to begin in October 2018 and be completed by December 2020. If the construction schedule moves to later years, construction emissions would decrease compared with the emissions generated during the anticipated schedule because of future improvements in technology and compliance with ongoing stringent regulatory requirements; therefore, the construction schedule used in this analysis represents a "worst-case" analysis scenario. In order to account for the construction emissions in assessing the project's GHG impacts, the total emissions generated during construction were amortized based on the life of the development (residential—50 years) and added to the operational emissions. As shown in Table 7, construction of the project is estimated to generate approximately 1,011 MT CO_2e. The amortized emissions from construction of 20.2 MT CO_2e were added to the operational emissions to determine the total emissions of the project. These total project emissions were compared to the applicable BAAQMD significance threshold standard of 1,100 MT CO_2e per year.

Table 7: Unmitigated Construction Greenhouse Gas Emissions

Construction Phases	Total Emissions (MT CO_2e/year)
2018	
Site Preparation	36.4
Grading	131.8
Building Construction (2018)	1.9
Total 2018 Construction Emissions	*170.1*
2019	
Building Construction (2019)	477.2
Total 2019 Construction Emissions	*477.2*
2020	
Building Construction (2020)	320.3
Paving	37.2
Architectural Coating	6.3
Total 2020 Construction Emissions	*363.8*
Total Construction Emissions	**1,011.1**
Construction Emissions Amortized Over the Life of the Project (50 years)	**20.2**
Note: Calculations use unrounded numbers. Source: CalEEMod	

Operation

Operational or long-term emissions occur over the life of the project. Sources for operational emissions include:

- **Motor Vehicles:** These emissions refer to GHG emissions contained in the exhaust from the cars and trucks that would travel to and from the project site.
- **Natural Gas:** These emissions refer to the GHG emissions that occur when natural gas is burned on the project site. Natural gas uses could include heating water, space heating, dryers, stoves, or other uses.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the project.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the GHG emissions produced by decomposing waste generated by the project.

The analysis quantified annual emissions from the project for comparison to BAAQMD's threshold of 1,100 MT CO_2e per year. Operational GHG emissions by source are shown in Table 8. Total annual operational emissions were estimated at approximately 564 MT CO_2e assuming full buildout in the year 2020. As previously indicated, the analysis includes construction emissions amortized over the life of the project. The project would generate approximately 584 MT CO_2e per year with the addition of amortized construction emissions.

Table 8: Operational Greenhouse Gas Emissions (2020)

Emission Source	Project Total MT CO_2e per year
Area	2
Energy	132
Mobile (Vehicles)	398
Waste	24
Water	8
Total Project Operational Emissions	*564*
Annualized Construction Emissions	*20*
Total Project Emissions	**584**
BAAQMD Threshold	**1,100**
Does project exceed threshold?	**No**

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent.
Source of Emissions: CalEEMod

As shown in Table 8 the project's long-term operational emissions would not exceed the BAAQMD's threshold of significance. Therefore, the project's GHG emissions would be less than significant.

Greenhouse Gas Reduction Plan Consistency

Significance for this impact is determined by project compliance with the City of Pleasanton Climate Action Plan (CAP),[3] which is a qualified GHG Reduction Plan according to the BAAQMD's 2017 guidelines.[4] The City's CAP identifies policies that will achieve the State-recommended GHG reduction target of 15 percent below 2008 levels by the year 2020 and the locally adopted reduction goal of 15 percent below 2005 levels by 2020. The CAP provides goals, supporting strategies, and associated actions in the topical areas of energy, land use and transportation, solid waste minimization, water and wastewater, and community engagement. To assess compliance with the City's CAP, a consistency analysis was performed for applicable requirements and is discussed below.

In summary, the project would not conflict with the City of Pleasanton CAP or regulations adopted by the State of California to reduce GHG emission and would comply with all mandatory local and regional measures applicable to the project. As shown in Impact GHG-1, the project would incrementally increase GHG emissions, but not to a level that would generate significant effects. Considering this information, the project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of GHGs. Impacts would be less than significant.

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[3] City of Pleasanton. 2012. City of Pleasanton Climate Action Plan. Website: http://www.cityofpleasantonca.gov/civicax/filebank/blobdload.aspx?BlobID=24757. Accessed March 30, 2018.

[4] Bay Area Air Quality Management District (BAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed March 29,

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