

Attachment B – Air Quality Technical Memorandum

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TECHNICAL MEMORANDUM

To: Lev Gershman, Managing Partner, Tideline Partners
From: Sharon Toland, Project Manager, and Kelsey Hawkins, Deputy Project Manager, Harris & Associates
Subject: Tideline Kensho Residential Project – Air Quality Impact Analysis
Date: May 1, 2023
CC: Ryan Binns, Senior Director, Harris & Associates
Att: 1, CalEEMod Results

Dear Mr. Gershman,

The following presents the results of Harris & Associates' analysis of the potential impacts on air quality from implementation of the proposed Tideline Kensho Residential Project (Project). The Project would develop 183 dwelling units, including three three-story buildings and one four-story building with covered parking included in three of the four buildings. The site would be rezoned out of the Pheasant Hill Specific Plan and into the Downtown Vista Specific Plan (DVSP) and would also include a General Plan amendment, a zoning change, a Site Development Plan, and a Tentative Parcel Map. The Project also proposes off-site sidewalk improvements on the northern side of Guajome Street from Eddie Drive to the Project site and on the southern side of Guajome Street between the Project's western property line and Mercantile Street. The Project site is on the southern side of Guajome Street just west of the existing SPINTER light-rail line. Adjacent properties include single-family residential to the north, south, and west (and across Lado De Loma Drive). Commercial development is across Guajome Street, and vacant parcels, commercial development, and multi-family residential development are to the east across the SPINTER tracks.

Background

Air quality laws and regulations have historically divided air pollutants into two broad categories: criteria air pollutants and toxic air contaminants (TACs). Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient air standards based on criteria regarding health and environmental effects of pollution. TACs are pollutants with potential to cause significant adverse health effects. Unlike the air quality standards for criteria pollutants to protect health and the environment, the California Air Resources Board identifies exposure thresholds for TACs that indicate levels below which no significant adverse health effects are anticipated from exposure to the identified substance. However, thresholds are not specified for TACs that have been found to have no safe exposure level or where insufficient data is available to identify an exposure threshold (CARB 2023a).

The criteria air pollutants pertinent to the analysis in this memorandum are carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), particulate matter, and sulfur dioxide (SO₂). The following describes the health effects of these criteria air pollutants.

Carbon Monoxide

CO is a colorless, odorless, poisonous gas produced by combustion processes, primarily mobile sources. When CO gets into the body, it combines with chemicals in the blood and prevents blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposure to CO can cause serious health effects, including death (USEPA 2022a).

Nitrogen Oxides

NO_x is a general term pertaining to compounds including nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen. NO_x is produced from burning fuels, including gasoline, diesel, and coal. NO_x reacts with volatile organic compounds (VOCs) to form ground-level O₃ (smog). NO_x is linked to a number of adverse respiratory system effects (USEPA 2022b).

Ozone

Ground-level O₃ is not emitted directly into the air but is formed by chemical reactions of “precursor” pollutants (NO_x and VOCs) in the presence of sunlight. Major emissions sources include NO_x and VOC emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents. O₃ can trigger a variety of health problems, particularly for sensitive receptors, including children, older adults, and people of all ages who have lung diseases, such as asthma (USEPA 2022c).

Particulate Matter

Particulate matter includes dust, metals, organic compounds, and other tiny particles of solid materials that are released into and move around in the air. Particulates are produced by many sources, including the burning of diesel fuels by trucks and buses, industrial processes, and fires. Particulate pollution can cause nose and throat irritation and heart and lung problems. Particulate matter is measured in microns, which are one-millionth of a meter in length (or one-thousandth of a millimeter). PM₁₀ is small (i.e., respirable) particulate matter measuring no more than ten microns in diameter, while PM_{2.5} is fine particulate matter measuring no more than 2.5 microns in diameter (CARB 2023a).

Sulfur Dioxide

SO₂ is formed primarily by the combustion of sulfur-containing fossil fuels, especially at power plants and industrial facilities. SO₂ is linked to a number of adverse effects on the respiratory system (USEPA 2022d).

Toxic Air Contaminants

TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. The two primary emissions of concern regarding health effects for land development projects are CO and diesel particulate matter (DPM). The health effects of CO are described previously. DPM is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Compounds found in diesel exhaust are carcinogenic. Some short-term (acute) effects of diesel exhaust exposure include eye, nose, throat, and lung irritation and headaches and dizziness. Long-term exposure is linked to increased risk of cardiovascular, cardiopulmonary, and respiratory disease and lung cancer (OSHA 2013).

Existing Ambient Air Quality

The Project site is in the San Diego Air Basin (SDAB). Table 1, Air Quality Monitoring Data, presents a summary of the highest pollutant concentrations monitored during the three most recent years (2019 through 2021) for which the San Diego Air Pollution Control District (SDAPCD) has reported data. Data is reported from the monitoring station nearest to the Project site with available data for that pollutant. No CO or SO₂ data is available from any monitoring site in the SDAB for recent years. However, with one exception for CO during the firestorms of October 2003, the SDAB has not violated the state or federal standards for CO or SO₂ in the last 20 years (SDAPCD 2023). As shown in Table 1, the eight-hour O₃ concentration standard and PM_{2.5} federal standard were exceeded in 2020, and the PM₁₀ state standard was exceeded in 2019.

Table 1. Air Quality Monitoring Data

Pollutant	Monitoring Station	2019	2020	2021
O₃				
Maximum one-hour concentration (ppm)	Camp Pendleton (21441 West B Street)	0.075	0.094	0.074
Days above one-hour state standard (>0.09 ppm)		0	0	0
Maximum eight-hour concentration (ppm)		0.064	0.074	0.059
Days above eight-hour state standard (>0.07 ppm)		0	3	0
Days above eight-hour federal standard (>0.07 ppm)		0	3	0
PM₁₀				
Peak 24-hour concentration (µg/m ³)	San Diego – Chula Vista (80 East J Street)	68.2	—	—
Days above state standard (>50 µg/m ³)		1	—	—
Days above federal standard (>150 µg/m ³)		0	—	—
PM_{2.5}				
Peak 24-hour concentration (µg/m ³)	San Diego – Escondido (11403 Rancho Carmel Drive)	18.9	40.2	23.54
Days above federal standard (>35 µg/m ³)		0	3	0
NO₂				
Peak one-hour concentration (ppm)	Camp Pendleton (21441 West B Street)	0.053	0.058	0.059
Days above state one-hour standard (0.18 ppm)		0	0	0

Source: CARB 2023b.

Notes: µg/m³ = micrograms per cubic meter; NO₂ = nitrogen dioxide; O₃ = ozone; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter; ppm = parts per million

Regulatory Setting

The Clean Air Act (CAA) of 1970 requires the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) while retaining the option for states to adopt more stringent standards or to include other specific pollutants. The NAAQS were developed for six criteria pollutants: O₃, NO₂, CO, SO₂, particulate matter, and lead. The 1990 CAA Amendments require that each state have an Air Pollution Control Plan called the State Implementation Plan (SIP). The SIP includes strategies and control measures to attain the

NAAQS by deadlines established by the CAA. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The USEPA reviews the SIPs to determine whether the plans would conform to the 1990 CAA Amendments and achieve the air quality goals.

The USEPA has classified air basins (or portions thereof) as being in “attainment,” “non-attainment,” or “unclassified” for each criteria air pollutant based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data was available as a basis for a non-attainment or attainment designation. Table 2, San Diego Air Basin Attainment Status, lists the attainment status of the SDAB for the criteria pollutants. The USEPA classifies the SDAB as attainment for the federal CO, NO₂, lead, PM_{2.5}, and SO₂ standards. It is unclassifiable for PM₁₀ with respect to federal air quality standards. The SDAB is classified as in moderate non-attainment for O₃.

Through the California CAA, the State of California established standards for criteria pollutants that are generally stricter than federal standards. As shown in Table 2, the SDAB is in non-attainment with the California Ambient Air Quality Standards for O₃, PM₁₀, and PM_{2.5}. San Diego county is designated as an attainment area for the state CO, NO₂, SO₂, lead, and sulfates standards. Hydrogen sulfide and visibility-reducing particles are unclassified in San Diego county.

Table 2. San Diego Air Basin Attainment Status

Pollutant	Averaging Time	State Standards	Federal Standards
O ₃	One-hour	Non-attainment	No federal standard
	Eight-hour		Non-attainment
PM ₁₀	Annual arithmetic mean	Non-attainment	No federal standard
	24-hour		Unclassified ¹
PM _{2.5}	Annual arithmetic mean	Non-attainment	Attainment
	24-hour	No state standard	
CO	Eight-hour	Attainment	Attainment
	One-hour		
NO ₂	Annual arithmetic mean	No state standard	Attainment
	One-hour	Attainment	No federal standard
Lead	Calendar quarter	No state standard	Attainment
	30-day average	Attainment	No federal standard
	Rolling three-month average	No state standard	Attainment
SO ₂	Annual arithmetic mean	No state standard	Attainment
	24-hour	Attainment	Attainment
	One-hour	Attainment	No federal standard
Sulfates	24-hour	Attainment	No federal standard
Hydrogen sulfide	One-hour	Unclassified	No federal standard
Visibility-reducing particulates	Eight-hour (10 a.m. to 6 p.m. [PT])	Unclassified	No federal standard

Sources: SDAPCD 2022.

Notes: CO = carbon monoxide; NO₂ = nitrogen dioxide; O₃ = ozone; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter; PT = Pacific Time; SO₂ = sulfur dioxide

¹ “Unclassified” indicates that data is not sufficient for determining attainment or non-attainment.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, older adults, people with acute illnesses, and people with chronic illnesses, especially those with cardiorespiratory diseases. The closest existing sensitive receptors to the Project site are residences directly west and south of the Project site.

Significance Thresholds

The SDAPCD has jurisdiction over air quality programs in the SDAB. Therefore, the city of Vista is within the jurisdiction of the SDAPCD. The SDAPCD does not provide quantitative thresholds for determining the significance of construction- or mobile source-related projects. However, the SDAPCD specifies air quality impact analysis trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If these incremental levels are exceeded, an air quality impact analysis must be performed. For California Environmental Quality Act (CEQA) purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact on air quality. Because the air quality impact analysis screening thresholds do not include VOCs, the screening levels for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which has stricter emissions thresholds than the SDAPCD. For PM_{2.5}, the USEPA's Proposed Rule to Implement the Fine Particle NAAQS (published in 2005), which quantifies significant emissions as ten tons per year, is used as the screening level threshold. The trigger thresholds are listed in Table 3, San Diego Air Pollution Control District Pollutant Thresholds.

Table 3. San Diego Air Pollution Control District Pollutant Thresholds

Pollutant	Pounds/Day
CO	550
NO _x	250
PM ₁₀	100
PM _{2.5}	55 ¹
SO _x	250
Lead	3.2
VOC	75 ²

Source: County of San Diego 2007.

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter; SO_x = sulfur oxides; VOC = volatile organic compound

SO₂ is the dominant sulfur oxide from combustion sources and is the relevant SO_x calculated by the California Emissions Estimator Model (CalEEMod) for air quality standard compliance. Therefore, the SDAPCD threshold for SO_x is used as the threshold for SO₂ emissions in this analysis.

¹ Based on the USEPA's Proposed Rule to Implement the Fine Particle NAAQS published September 2005.

² Based on the VOC threshold from the SCAQMD.

Regarding sensitive receptors, the Project would result in a significant impact if it would expose on- or off-site sensitive receptors to substantial CO concentrations or expose new on-site sensitive receptors to existing off-site sources of TACs. An air quality impact related to CO is considered significant if CO emissions create a hotspot where either the California one-hour standard of 20 parts per million (ppm) or the federal and California eight-hour standard of nine ppm is exceeded. An odor impact would be considered significant if the Project would result in emissions leading to odors that would adversely affect a substantial number of people.

Construction Impact Analysis

Project construction emissions from standard construction were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0, based on construction information provided by the applicant, including construction schedule (approximately 21 months), material movement (net export of 20,000 cubic yards),

construction worker trips (B&G Consultants 2023), and disturbance area (five acres). Demolition of existing on-site development would be required. As specified by the applicant, paving would occur in two separate phases. Some phase overlap would occur. CalEEMod default inputs were assumed for construction equipment, vendor and haul vehicle trips, and architectural coating. Model assumptions are provided in Attachment 1, CalEEMod Results. Potential blasting impacts are evaluated based on information provided by the construction contractor (Kruer 2022).

Maximum daily emissions levels associated with Project construction other than blasting are shown in Table 4, Estimated Construction Daily Maximum Air Pollutant Emissions (pounds/day). As shown in Table 4, the Project would not exceed SDAPCD construction thresholds for any pollutant.

Blasting may also be required during the grading phase of construction if it is determined that excavation cannot be completed with standard construction practices. Blasting specifications are currently unknown; however, blasting practices would comply with all applicable safety regulations and would be tightly controlled in consideration of surrounding development. Blasting would include the following best management practices to minimize impacts to neighboring residences:

- Blasting would be limited to one blast per day.
- Overburden, or a similar best management practice, would be used to reduce fugitive dust, noise, and the possibility of small fly-rock.
- Shot area would be lightly sprayed with water to minimize dust.
- Shot area would be located as far from residences as possible and would not occur within 100 feet of residences.

As stated above, a maximum of one blast would occur during blast days, and approximately six blast days would be anticipated, if required. On blast days, all other construction work would cease. Standard construction operation would be required before and after the blast, and each blast would last only a few seconds. Operation of standard construction equipment during blasting setup, cleanup, and excavated material loading would be similar to the other phases of construction and would not result in significant emissions. As shown in Table 4, maximum daily emissions, including fugitive dust emissions during regular grading, would be well below maximum daily thresholds. One blast event, including incorporation of overburden and watering, would not be expected to significantly contribute to daily particulate matter emissions. A study of larger construction blasting events (building implosions) found that blasting did not exceed NAAQS and that localized particulate matter concentrations returned to pre-blast conditions within 15 minutes (Beck et al. 2003).

Therefore, the Project would not result in a significant impact related to criteria pollutant emissions during construction. Because emissions of criteria pollutants under the Project would be below applicable thresholds, which are established to assist maintaining or achieving regional attainment in the SDAB, construction would not result in a cumulatively considerable contribution to regional acute and long-term health impacts related to non-attainment of the ambient air quality standards consistent with the findings in the Downtown Vista Specific Plan Update Program Environmental Impact Report (DVSP PEIR) (City of Vista 2010).

Table 4. Estimated Construction Daily Maximum Air Pollutant Emissions (pounds/day)

Construction Phase	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Demolition	2	21	20	<1	1	1
Grading	2	29	18	<1	10	5
Paving Phase 1	1	8	12	<1	<1	<1
Building Construction	2	15	20	<1	3	1
Site Preparation	2	25	19	<1	22	11
Architectural Coating	64	1	3	<1	<1	<1
Paving Phase 2	1	8	12	<1	<1	<1
Maximum Daily Emissions (Individual Phases)	64	29	20	<1	22	11

Table 4. Estimated Construction Daily Maximum Air Pollutant Emissions (pounds/day)

Construction Phase	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Daily Emissions (Overlapping Site Preparation and Architectural Coating)	66	26	22	<1	22	11
SDAPCD Threshold	75	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Attachment 1.

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM₁₀ = particulate matter less than ten microns; PM_{2.5} = particulate matter less than 2.5 microns; SO₂ = sulfur dioxide; VOC = volatile organic compound

Emission quantities are rounded to the nearest whole number. Exact values are provided in Attachment 1.

Regarding sensitive receptors, construction has the potential to result in emissions of DPM. DPM is a mixture of many exhaust particulates and gases that is produced when an engine burns diesel fuel. Compounds found in diesel exhaust are carcinogenic and may cause health impacts ranging from irritation, headache, and dizziness to increased risk of cardiovascular, cardiopulmonary, and respiratory disease and lung cancer, depending on the length of exposure. The Project would result in a short-term addition of truck trips. Approximately 2,500 total truck trips would be required during the 30-day grading phase, and approximately five truck trips would be required during the 20-day demolition phase, resulting in a total of 2,505 truck trips. A maximum of 43 trucks per day is estimated during building construction. The length of individual receptor exposure would be limited, and as shown in Table 4, maximum daily air pollutant emissions from on- and off-road vehicle emissions would not exceed applicable thresholds. Construction associated with implementation of the Project would not result in a significant impact on sensitive receptors related to DPM. Compared to the DVSP PEIR's (City of Vista 2010) potentially significant impact, the proposed Project's impacts on sensitive receptors related to DPM would be less than significant.

Construction of the Project could result in minor amounts of odor compounds associated with diesel, heavy equipment exhaust. However, all diesel equipment would not be operating at once, and construction near individual receptors would be temporary and vary by day. Additionally, SO₂ is the only criteria air pollutant with a strong, pungent odor (ATSDR 2015). As shown in Table 4, maximum construction emissions of SO₂ would be less than one pound per day, which is well below the SDAPCD long-term threshold of 250 pounds per day. Therefore, impacts associated with odors during construction would not result in nuisance odors that would result in a significant impact, consistent with the findings of the DVSP PEIR (City of Vista 2010).

Operation Impact Analysis

Operational sources of air pollutants associated with the Project include fuel combustion emissions from vehicle trips, fuel combustion emissions from space and water heating, fuel combustion emissions from landscape maintenance equipment, VOC emissions from periodic repainting of interior and exterior surfaces, and natural gas use. CalEEMod default inputs were assumed for the Project, with the exception of vehicle trips, landscaping water use, and fireplaces and woodstoves. Vehicle trip data was obtained from the Project's Local Transportation Study (CRA 2022). The vehicle trip length was adjusted to the regional trip estimate for residential use reported in the (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). The trip rate and length did not account for the Project's increased density compared to existing conditions, proximity to transit service, and implementation of new pedestrian facilities. Therefore, these measures were selected in CalEEMod. As a Project design feature, no fireplaces or woodstoves would be allowed. Model assumptions are provided in Attachment 1.

The total estimated operational emissions from the Project are provided in Table 5, Operational Daily Maximum Air Pollutant Emissions. As shown in Table 5, operational emissions from the Project would not exceed any significance thresholds for maximum daily emissions. Air quality impacts associated with operation of the Project would be less than significant. Because emissions of criteria pollutants under the Project would be below

applicable thresholds, which are established to maintain or achieve regional attainment in the SDAB, operation would not result in a cumulatively considerable contribution to regional acute and long-term health impacts related to non-attainment of the ambient air quality standards. No mitigation would be required.

Compared to the DVSP PEIR's (City of Vista 2010) significant and unavoidable impact, the proposed Project's air quality impact during operation would be less than significant.

Table 5. Operational Daily Maximum Air Pollutant Emissions

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Natural Gas	<1	<1	<1	<1	<1	<1
Landscape	<1	<1	15	<1	<1	<1
Consumer Products	6	0	0	0	0	0
Architectural Coatings	2	0	0	0	0	0
Hearths	0	0	0	0	0	0
Vehicular Sources	3	3	25	<1	6	2
Total Operational Emissions	11	3	40	<1	6	2
SDAPCD Threshold	75	250	550	250	100	55
<i>Significant Impact?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: CalEEMod, version 2020.4.0. See Attachment 1 for model output.

Notes: CO = carbon monoxide; NO_x = nitrogen oxides; PM₁₀ = respirable particulate matter; PM_{2.5} = fine particulate matter; SO₂ = sulfur dioxide; VOC = volatile organic compound

Emission quantities are rounded to the nearest whole number. Exact values are provided in Attachment 1.

Regarding sensitive receptors, the California Air Resources Board recommends that a detailed health risk assessment be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center, 300 feet of a large gas station, 50 feet of typical gas dispensing facilities, 300 feet of a dry cleaning facility that uses perchloroethylene, or 500 feet of a highway, among other siting recommendations (CARB 2005). Additionally, areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of CO, known as "CO hot spots." An air quality impact is considered significant if CO emissions create a hotspot where either the California one-hour standard of 20 ppm or the federal and California eight-hour standard of nine ppm is exceeded. This typically occurs at severely congested intersections (level of service E or worse) (Caltrans 2010).

The Project consists of residences that would not be a source of substantial TACs. The Project would not place sensitive receptors within a screening distance for a source of TACs requiring a health risk assessment. Additionally, the Project traffic assessment did not identify any intersections in the Project study area that would operate at level of service E or F as a result of Project implementation (CRA 2022). A CO hotspot would not occur as a result of Project implementation. Therefore, impacts on sensitive receptors would be less than significant. Compared to the DVSP PEIR's (City of Vista 2010) potentially significant impact, the proposed Project's operational impacts on sensitive receptors would be less than significant.

Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations (CARB 2005). The Project consists of residential land uses. The Project would not construct a facility that would create new objectionable odors. Therefore, impacts related to odor emissions would be less than significant, consistent with the findings of the DVSP PEIR (City of Vista 2010).

Summary

Implementation of the Project would not result in a significant air quality impact and would be consistent with the DVSP PEIR (City of Vista 2010). No mitigation measures would be required.

References

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Attachment 1. CalEEMod Results

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Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Tideline - Kensho Residential
San Diego Air Basin, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	71.69	1000sqft	1.00	71,692.00	0
Other Non-Asphalt Surfaces	20.92	1000sqft	0.40	20,922.00	0
Parking Lot	48.05	1000sqft	0.60	48,048.00	0
Apartments Mid Rise	183.00	Dwelling Unit	3.00	262,787.00	523

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	539.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - DU and SF per applicant data needs list.
- Construction Phase - Construction schedule per applicant - manpower analysis jan 2023
- Trips and VMT - Revised worker trips per manpower analysis from applicant Jan 2023
- Demolition - Demo per updated submittal drawings
- Grading -
- Vehicle Trips - Revised trip rates and lengths per the TIA (CRA 2022)
- Woodstoves - No hearths assumed
- Water And Wastewater - Landscaping water use from submittal drawings

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	130.00
tblConstructionPhase	NumDays	230.00	260.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	18.00	30.00
tblConstructionPhase	NumDays	5.00	60.00
tblFireplaces	NumberGas	100.65	0.00
tblFireplaces	NumberNoFireplace	18.30	183.00
tblFireplaces	NumberWood	64.05	0.00
tblGrading	MaterialExported	0.00	20,000.00
tblLandUse	LandUseSquareFeet	71,690.00	71,692.00
tblLandUse	LandUseSquareFeet	20,920.00	20,922.00
tblLandUse	LandUseSquareFeet	48,050.00	48,048.00
tblLandUse	LandUseSquareFeet	183,000.00	262,787.00
tblLandUse	LotAcreage	1.65	1.00
tblLandUse	LotAcreage	0.48	0.40
tblLandUse	LotAcreage	1.10	0.60
tblLandUse	LotAcreage	4.82	3.00
tblTripsAndVMT	WorkerTripNumber	15.00	14.00
tblTripsAndVMT	WorkerTripNumber	15.00	14.00
tblTripsAndVMT	WorkerTripNumber	191.00	160.00
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	38.00	36.00
tblTripsAndVMT	WorkerTripNumber	18.00	70.00
tblVehicleTrips	HO_TL	7.50	7.90
tblVehicleTrips	HS_TL	7.30	7.90

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	HW_TL	10.80	7.90
tblVehicleTrips	ST_TR	4.91	6.00
tblVehicleTrips	SU_TR	4.09	6.00
tblVehicleTrips	WD_TR	5.44	6.00
tblWater	OutdoorWaterUseRate	7,516,791.61	1,283,121.00
tblWoodstoves	NumberCatalytic	9.15	0.00
tblWoodstoves	NumberNoncatalytic	9.15	0.00

2.0 Emissions Summary

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2023	2.3079	28.8608	19.9892	0.0806	8.7488	0.9984	9.6169	3.8689	0.9288	4.6710	0.0000	8,487.3350	8,487.3350	1.2096	0.8789	8,779.4853
2024	66.2008	27.8587	32.8594	0.0795	8.7488	1.0304	9.5669	3.8690	0.9628	4.6250	0.0000	8,388.0715	8,388.0715	1.2319	0.8639	8,675.9750
2025	66.8957	32.8904	31.9882	0.0631	20.5278	1.4428	21.8392	10.3334	1.3291	11.6277	0.0000	6,130.2601	6,130.2601	1.7752	0.1640	6,178.9439
Maximum	66.8957	32.8904	32.8594	0.0806	20.5278	1.4428	21.8392	10.3334	1.3291	11.6277	0.0000	8,487.3350	8,487.3350	1.7752	0.8789	8,779.4853

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					
2023	2.3079	28.8608	19.9892	0.0806	8.7488	0.9984	9.6169	3.8689	0.9288	4.6710	0.0000	8,487.3350	8,487.3350	1.2096	0.8789	8,779.4853
2024	66.2008	27.8587	32.8594	0.0795	8.7488	1.0304	9.5669	3.8690	0.9628	4.6250	0.0000	8,388.0715	8,388.0715	1.2319	0.8639	8,675.9750
2025	66.8957	32.8904	31.9882	0.0631	20.5278	1.4428	21.8392	10.3334	1.3291	11.6277	0.0000	6,130.2601	6,130.2601	1.7752	0.1640	6,178.9439
Maximum	66.8957	32.8904	32.8594	0.0806	20.5278	1.4428	21.8392	10.3334	1.3291	11.6277	0.0000	8,487.3350	8,487.3350	1.7752	0.8789	8,779.4853

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	8.4070	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687
Energy	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259
Mobile	2.8854	2.7731	24.9076	0.0544	5.9013	0.0411	5.9424	1.5720	0.0383	1.6103		5,680.2160	5,680.2160	0.3779	0.2375	5,760.4367
Total	11.3317	3.2832	40.1484	0.0573	5.9013	0.1520	6.0533	1.5720	0.1493	1.7212	0.0000	6,136.6074	6,136.6074	0.4123	0.2454	6,220.0314

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	8.4070	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687
Energy	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259
Mobile	2.2408	1.7298	15.2306	0.0290	3.0733	0.0234	3.0967	0.8187	0.0218	0.8405		3,030.2613	3,030.2613	0.2494	0.1510	3,081.4925
Total	10.6871	2.2399	30.4714	0.0320	3.0733	0.1343	3.2076	0.8187	0.1327	0.9514	0.0000	3,486.6527	3,486.6527	0.2837	0.1589	3,541.0871

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	5.69	31.78	24.10	44.25	47.92	11.65	47.01	47.92	11.08	44.73	0.00	43.18	43.18	31.18	35.25	43.07

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/1/2023	11/28/2023	5	20	
2	Grading	Grading	11/29/2023	1/9/2024	5	30	
3	Building Construction	Building Construction	1/10/2024	1/7/2025	5	260	
4	Paving 1	Paving	2/13/2024	3/11/2024	5	20	
5	Architectural Coating	Architectural Coating	10/29/2024	4/28/2025	5	130	
6	Site Preparation 2	Site Preparation	3/3/2025	5/23/2025	5	60	
7	Paving 2	Paving	5/9/2025	6/19/2025	5	30	

Acres of Grading (Site Preparation Phase): 90

Acres of Grading (Grading Phase): 30

Acres of Paving: 2

Residential Indoor: 532,144; Residential Outdoor: 177,381; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 8,440 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation 2	Rubber Tired Dozers	3	8.00	247	0.40

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation 2	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Paving 1	Cement and Mortar Mixers	2	6.00	9	0.56
Paving 1	Pavers	1	8.00	130	0.42
Paving 1	Paving Equipment	2	6.00	132	0.36
Paving 1	Rollers	2	6.00	80	0.38
Paving 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving 2	Cement and Mortar Mixers	2	6.00	9	0.56
Paving 2	Pavers	1	8.00	130	0.42
Paving 2	Paving Equipment	2	6.00	132	0.36
Paving 2	Rollers	2	6.00	80	0.38
Paving 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	14.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation 2	7	70.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	14.00	0.00	2,500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	9	160.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving 1	8	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving 2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

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					0.0569	0.0000	0.0569	8.6100e-003	0.0000	8.6100e-003			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.0569	0.9975	1.0544	8.6100e-003	0.9280	0.9366		3,746.9840	3,746.9840	1.0494		3,773.2183

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

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	5.7000e-004	0.0327	8.9800e-003	1.5000e-004	4.3700e-003	2.8000e-004	4.6500e-003	1.2000e-003	2.7000e-004	1.4600e-003		16.5319	16.5319	8.3000e-004	2.6300e-003	17.3362
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
Worker	0.0383	0.0238	0.3369	1.0200e-003	0.1150	6.2000e-004	0.1156	0.0305	5.7000e-004	0.0311		103.9995	103.9995	2.7800e-003	2.5600e-003	104.8321
Total	0.0389	0.0565	0.3459	1.1700e-003	0.1194	9.0000e-004	0.1203	0.0317	8.4000e-004	0.0325		120.5314	120.5314	3.6100e-003	5.1900e-003	122.1683

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					0.0569	0.0000	0.0569	8.6100e-003	0.0000	8.6100e-003			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388	0.0569	0.9975	1.0544	8.6100e-003	0.9280	0.9366	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

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	5.7000e-004	0.0327	8.9800e-003	1.5000e-004	4.3700e-003	2.8000e-004	4.6500e-003	1.2000e-003	2.7000e-004	1.4600e-003		16.5319	16.5319	8.3000e-004	2.6300e-003	17.3362
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
Worker	0.0383	0.0238	0.3369	1.0200e-003	0.1150	6.2000e-004	0.1156	0.0305	5.7000e-004	0.0311		103.9995	103.9995	2.7800e-003	2.5600e-003	104.8321
Total	0.0389	0.0565	0.3459	1.1700e-003	0.1194	9.0000e-004	0.1203	0.0317	8.4000e-004	0.0325		120.5314	120.5314	3.6100e-003	5.1900e-003	122.1683

3.3 Grading - 2023

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					7.1763	0.0000	7.1763	3.4389	0.0000	3.4389			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	7.1763	0.7749	7.9512	3.4389	0.7129	4.1519		2,872.6910	2,872.6910	0.9291		2,895.9182

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

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	0.1887	10.9012	2.9946	0.0499	1.4575	0.0925	1.5500	0.3995	0.0885	0.4880		5,510.6445	5,510.6445	0.2777	0.8763	5,778.7351
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
Worker	0.0383	0.0238	0.3369	1.0200e-003	0.1150	6.2000e-004	0.1156	0.0305	5.7000e-004	0.0311		103.9995	103.9995	2.7800e-003	2.5600e-003	104.8321
Total	0.2270	10.9250	3.3315	0.0509	1.5725	0.0931	1.6657	0.4300	0.0891	0.5191		5,614.6440	5,614.6440	0.2805	0.8789	5,883.5672

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					7.1763	0.0000	7.1763	3.4389	0.0000	3.4389			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	7.1763	0.7749	7.9512	3.4389	0.7129	4.1519	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

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	0.1887	10.9012	2.9946	0.0499	1.4575	0.0925	1.5500	0.3995	0.0885	0.4880		5,510.6445	5,510.6445	0.2777	0.8763	5,778.7351
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
Worker	0.0383	0.0238	0.3369	1.0200e-003	0.1150	6.2000e-004	0.1156	0.0305	5.7000e-004	0.0311		103.9995	103.9995	2.7800e-003	2.5600e-003	104.8321
Total	0.2270	10.9250	3.3315	0.0509	1.5725	0.0931	1.6657	0.4300	0.0891	0.5191		5,614.6440	5,614.6440	0.2805	0.8789	5,883.5672

3.3 Grading - 2024

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					7.1763	0.0000	7.1763	3.4389	0.0000	3.4389			0.0000			0.0000
Off-Road	1.6617	17.0310	14.7594	0.0297		0.7244	0.7244		0.6665	0.6665		2,873.0541	2,873.0541	0.9292		2,896.2842
Total	1.6617	17.0310	14.7594	0.0297	7.1763	0.7244	7.9007	3.4389	0.6665	4.1054		2,873.0541	2,873.0541	0.9292		2,896.2842

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2024

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	0.1865	10.8063	3.0360	0.0489	1.4576	0.0931	1.5506	0.3995	0.0890	0.4886		5,413.635 3	5,413.635 3	0.2862	0.8616	5,677.532 4
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
Worker	0.0360	0.0214	0.3148	9.8000e-004	0.1150	5.9000e-004	0.1156	0.0305	5.4000e-004	0.0311		101.3821	101.3821	2.5300e-003	2.3900e-003	102.1585
Total	0.2225	10.8277	3.3508	0.0498	1.5726	0.0937	1.6662	0.4300	0.0896	0.5196		5,515.017 4	5,515.017 4	0.2887	0.8639	5,779.690 8

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					7.1763	0.0000	7.1763	3.4389	0.0000	3.4389			0.0000			0.0000
Off-Road	1.6617	17.0310	14.7594	0.0297		0.7244	0.7244		0.6665	0.6665	0.0000	2,873.054 1	2,873.054 1	0.9292		2,896.284 2
Total	1.6617	17.0310	14.7594	0.0297	7.1763	0.7244	7.9007	3.4389	0.6665	4.1054	0.0000	2,873.054 1	2,873.054 1	0.9292		2,896.284 2

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2024

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	0.1865	10.8063	3.0360	0.0489	1.4576	0.0931	1.5506	0.3995	0.0890	0.4886		5,413.6353	5,413.6353	0.2862	0.8616	5,677.5324
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
Worker	0.0360	0.0214	0.3148	9.8000e-004	0.1150	5.9000e-004	0.1156	0.0305	5.4000e-004	0.0311		101.3821	101.3821	2.5300e-003	2.3900e-003	102.1585
Total	0.2225	10.8277	3.3508	0.0498	1.5726	0.0937	1.6662	0.4300	0.0896	0.5196		5,515.0174	5,515.0174	0.2887	0.8639	5,779.6908

3.4 Building Construction - 2024

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

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	0.0000
Vendor	0.0495	1.8307	0.6487	8.6400e-003	0.2912	0.0113	0.3025	0.0838	0.0108	0.0946		933.9302	933.9302	0.0295	0.1352	974.9618
Worker	0.4110	0.2444	3.5980	0.0112	1.3144	6.7400e-003	1.3211	0.3486	6.2000e-003	0.3548		1,158.6525	1,158.6525	0.0290	0.0274	1,167.5256
Total	0.4604	2.0752	4.2467	0.0199	1.6056	0.0180	1.6236	0.4325	0.0170	0.4495		2,092.5826	2,092.5826	0.0584	0.1626	2,142.4874

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

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	0.0000
Vendor	0.0495	1.8307	0.6487	8.6400e-003	0.2912	0.0113	0.3025	0.0838	0.0108	0.0946		933.9302	933.9302	0.0295	0.1352	974.9618
Worker	0.4110	0.2444	3.5980	0.0112	1.3144	6.7400e-003	1.3211	0.3486	6.2000e-003	0.3548		1,158.6525	1,158.6525	0.0290	0.0274	1,167.5256
Total	0.4604	2.0752	4.2467	0.0199	1.6056	0.0180	1.6236	0.4325	0.0170	0.4495		2,092.5826	2,092.5826	0.0584	0.1626	2,142.4874

3.4 Building Construction - 2025

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.0000
Vendor	0.0480	1.8127	0.6379	8.4600e-003	0.2912	0.0113	0.3025	0.0838	0.0108	0.0946		916.1142	916.1142	0.0302	0.1326	956.3759
Worker	0.3872	0.2214	3.3753	0.0109	1.3144	6.4500e-003	1.3208	0.3486	5.9400e-003	0.3546		1,130.2468	1,130.2468	0.0264	0.0257	1,138.5562
Total	0.4352	2.0341	4.0131	0.0193	1.6056	0.0177	1.6233	0.4325	0.0167	0.4492		2,046.3611	2,046.3611	0.0566	0.1582	2,094.9321

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	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2025

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	0.0000
Vendor	0.0480	1.8127	0.6379	8.4600e-003	0.2912	0.0113	0.3025	0.0838	0.0108	0.0946		916.1142	916.1142	0.0302	0.1326	956.3759
Worker	0.3872	0.2214	3.3753	0.0109	1.3144	6.4500e-003	1.3208	0.3486	5.9400e-003	0.3546		1,130.2468	1,130.2468	0.0264	0.0257	1,138.5562
Total	0.4352	2.0341	4.0131	0.0193	1.6056	0.0177	1.6233	0.4325	0.0167	0.4492		2,046.3611	2,046.3611	0.0566	0.1582	2,094.9321

3.5 Paving 1 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9600	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving 1 - 2024

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	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
Worker	0.0257	0.0153	0.2249	7.0000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.9000e-004	0.0222		72.4158	72.4158	1.8100e-003	1.7100e-003	72.9704
Total	0.0257	0.0153	0.2249	7.0000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.9000e-004	0.0222		72.4158	72.4158	1.8100e-003	1.7100e-003	72.9704

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9600	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving 1 - 2024

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	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
Worker	0.0257	0.0153	0.2249	7.0000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.9000e-004	0.0222		72.4158	72.4158	1.8100e-003	1.7100e-003	72.9704
Total	0.0257	0.0153	0.2249	7.0000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.9000e-004	0.0222		72.4158	72.4158	1.8100e-003	1.7100e-003	72.9704

3.6 Architectural Coating - 2024

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	63.9955					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	64.1763	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

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	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
Worker	0.0925	0.0550	0.8096	2.5300e-003	0.2957	1.5200e-003	0.2973	0.0784	1.4000e-003	0.0798		260.6968	260.6968	6.5200e-003	6.1500e-003	262.6933
Total	0.0925	0.0550	0.8096	2.5300e-003	0.2957	1.5200e-003	0.2973	0.0784	1.4000e-003	0.0798		260.6968	260.6968	6.5200e-003	6.1500e-003	262.6933

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	63.9955					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	64.1763	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

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	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
Worker	0.0925	0.0550	0.8096	2.5300e-003	0.2957	1.5200e-003	0.2973	0.0784	1.4000e-003	0.0798		260.6968	260.6968	6.5200e-003	6.1500e-003	262.6933
Total	0.0925	0.0550	0.8096	2.5300e-003	0.2957	1.5200e-003	0.2973	0.0784	1.4000e-003	0.0798		260.6968	260.6968	6.5200e-003	6.1500e-003	262.6933

3.6 Architectural Coating - 2025

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	63.9955					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	64.1664	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

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	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
Worker	0.0871	0.0498	0.7594	2.4400e-003	0.2957	1.4500e-003	0.2972	0.0784	1.3400e-003	0.0798		254.3055	254.3055	5.9400e-003	5.7800e-003	256.1751
Total	0.0871	0.0498	0.7594	2.4400e-003	0.2957	1.4500e-003	0.2972	0.0784	1.3400e-003	0.0798		254.3055	254.3055	5.9400e-003	5.7800e-003	256.1751

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	63.9955					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	64.1664	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

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	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
Worker	0.0871	0.0498	0.7594	2.4400e-003	0.2957	1.4500e-003	0.2972	0.0784	1.3400e-003	0.0798		254.3055	254.3055	5.9400e-003	5.7800e-003	256.1751
Total	0.0871	0.0498	0.7594	2.4400e-003	0.2957	1.4500e-003	0.2972	0.0784	1.3400e-003	0.0798		254.3055	254.3055	5.9400e-003	5.7800e-003	256.1751

3.7 Site Preparation 2 - 2025

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	19.6570	1.0868	20.7438	10.1025	0.9999	11.1023		3,689.1037	3,689.1037	1.1931		3,718.9320

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Site Preparation 2 - 2025

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	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
Worker	0.1694	0.0969	1.4767	4.7500e-003	0.5750	2.8200e-003	0.5779	0.1525	2.6000e-003	0.1551		494.4830	494.4830	0.0115	0.0112	498.1183
Total	0.1694	0.0969	1.4767	4.7500e-003	0.5750	2.8200e-003	0.5779	0.1525	2.6000e-003	0.1551		494.4830	494.4830	0.0115	0.0112	498.1183

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	19.6570	1.0868	20.7438	10.1025	0.9999	11.1023	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Site Preparation 2 - 2025

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	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
Worker	0.1694	0.0969	1.4767	4.7500e-003	0.5750	2.8200e-003	0.5779	0.1525	2.6000e-003	0.1551		494.4830	494.4830	0.0115	0.0112	498.1183
Total	0.1694	0.0969	1.4767	4.7500e-003	0.5750	2.8200e-003	0.5779	0.1525	2.6000e-003	0.1551		494.4830	494.4830	0.0115	0.0112	498.1183

3.8 Paving 2 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8721	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259		1,805.3926	1,805.3926	0.5673		1,819.5741

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving 2 - 2025

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	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
Worker	0.0484	0.0277	0.4219	1.3600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.4000e-004	0.0443		141.2809	141.2809	3.3000e-003	3.2100e-003	142.3195
Total	0.0484	0.0277	0.4219	1.3600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.4000e-004	0.0443		141.2809	141.2809	3.3000e-003	3.2100e-003	142.3195

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8197	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741
Paving	0.0524					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8721	7.5321	12.1778	0.0189		0.3524	0.3524		0.3259	0.3259	0.0000	1,805.3926	1,805.3926	0.5673		1,819.5741

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving 2 - 2025

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	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
Worker	0.0484	0.0277	0.4219	1.3600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.4000e-004	0.0443		141.2809	141.2809	3.3000e-003	3.2100e-003	142.3195
Total	0.0484	0.0277	0.4219	1.3600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.4000e-004	0.0443		141.2809	141.2809	3.3000e-003	3.2100e-003	142.3195

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive 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	2.2408	1.7298	15.2306	0.0290	3.0733	0.0234	3.0967	0.8187	0.0218	0.8405		3,030.2613	3,030.2613	0.2494	0.1510	3,081.4925
Unmitigated	2.8854	2.7731	24.9076	0.0544	5.9013	0.0411	5.9424	1.5720	0.0383	1.6103		5,680.2160	5,680.2160	0.3779	0.2375	5,760.4367

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,098.00	1,098.00	1098.00	2,803,399	1,459,981
Enclosed Parking Structure	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,098.00	1,098.00	1,098.00	2,803,399	1,459,981

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Mid Rise	7.90	7.90	7.90	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Enclosed Parking Structure	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Other Non-Asphalt Surfaces	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

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	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259
NaturalGas Unmitigated	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Apartments Mid Rise	3647.99	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.64799	0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0393	0.3362	0.1431	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.1756	429.1756	8.2300e-003	7.8700e-003	431.7259

6.0 Area Detail

6.1 Mitigation Measures Area

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive 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	8.4070	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687
Unmitigated	8.4070	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687

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	2.2793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6735					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	0.4542	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837		27.2159	27.2159	0.0261		27.8687
Total	8.4069	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687

Timeline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	2.2793					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.6735					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	0.4542	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837		27.2159	27.2159	0.0261		27.8687
Total	8.4069	0.1739	15.0978	8.0000e-004		0.0837	0.0837		0.0837	0.0837	0.0000	27.2159	27.2159	0.0261	0.0000	27.8687

7.0 Water Detail

7.1 Mitigation Measures Water

Tideline - Kensho Residential - San Diego Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
