HELIX Environmental Planning

Ocean KAMP Project

Air Quality and Greenhouse Gas Technical Report

May 2021 | 03083.00010.001

Prepared for:

Zephyr Oceanside, LLC
700 Second Street
Encinitas, CA 92024

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Ocean KAMP Project

Air Quality and Greenhouse Gas Technical Report

Prepared for:

Zephyr Oceanside LLC
700 Second Street
Encinitas, CA 92024

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

May 2021 | 03083.00010.001

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS (cont.)

Section **Page**

LIST OF APPENDICES

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AAM	Annual Arithmetic Mean
AB	Assembly Bill
APN	Assessor's Parcel Number
C_2F_6	hexafluoroethane
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF_4	tetrafluoromethane
CFC	chlorofluorocarbon
CH_4	methane
City	City of Oceanside
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DPM	diesel particulate matter
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HR	House of Representatives
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatt
kWhr	kilowatt hour
LCFS	Low Carbon Fuel Standard
LOS	Level of Service

ACRONYMS AND ABBREVIATIONS (cont.)

mg/m^3	milligrams per cubic meter
MMT	million metric tons
MT	metric tons
mpg	miles per gallon
mph	miles per hour
MPOs	Metropolitan Planning Organizations
MW	megawatt
MWh	megawatt hour
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NO	nitrogen oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_X	nitrogen oxides
O_3	ozone
Pb	lead
PFC	perfluorocarbon
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
ppm	parts per million
PV	photovoltaic
ROG	reactive organic gas
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SANDAG	San Diego Association of Governments
SF_6	hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxides
TAC	toxic air contaminant
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geologic Survey

ACRONYMS AND ABBREVIATIONS (cont.)

VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center

EXECUTIVE SUMMARY

This report presents an assessment of potential air quality and greenhouse gas (GHG) impacts for the Ocean KAMP Residential Project (project), located in the City of Oceanside (City), California. The report evaluates the potential for criteria air pollutant emissions and GHG emissions impacts during the construction and operation of the project.

The project would develop commercial uses including a 300-room resort hotel, a conference facility, a surf lagoon beach club, and 11 commercial buildings consisting of approximately 126,400 SF of office, retail, restaurants, and fitness uses. The project would also develop a residential component consisting of 700 multi-family units. The project would be consistent with the City General Plan Land Use Designation and would not conflict with the San Diego County Air Quality Attainment Plan. Criteria pollutant and precursor pollutant emissions generated during project construction activities would not exceed the San Diego Air Pollution Control District (SDAPCD) thresholds. Long-term operational emissions of criteria pollutants and precursors would not exceed the SDAPCD thresholds, and the impacts would be less than significant.

Construction and operation of the project would not expose sensitive receptors to substantial concentrations of toxic air contaminants (TACs), including diesel particulate matter (DPM) emissions from the use of construction equipment. The project's contribution to area traffic would not result in carbon monoxide (CO) hotspots. Impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

Neither construction activities nor long-term operation of the project would be a source of objectionable odors that would adversely affect a significant number of persons, and odor impacts would be less than significant.

Implementation of the project would result in GHG emissions of 3.0 metric tons (MT) of carbon dioxide equivalents (CO_2e) per service population per year, including amortized construction GHG emissions. The project's GHG emissions would be below the City threshold of 3.5 MT CO_2e per service population per year, and the GHG emissions impact would be less than significant. The project would not conflict with or obstruct with GHG reduction plans, including the City's Climate Action Plan (CAP) and the California Air Resource Board's Climate Change Scoping Pan.

This page intentionally left blank

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential air quality, and greenhouse gas (GHG) emissions impacts associated with the proposed Ocean KAMP Project (project), which includes an assessment of potential impacts associated with project construction and project operation, and a comparison of the project impacts to those identified in the 2008 Pavilion at Oceanside Environmental Impact Report (EIR). As appropriate, the analysis identifies measures that can be taken to avoid adverse air quality and GHG emissions impacts.

1.2 PROJECT LOCATION

The project site encompasses approximately 92 acres located at 3480 Mission Avenue, Oceanside, CA 92054, in the city of Oceanside in San Diego County. The project is located north of Mission Avenue and State Route 76 (SR 76), immediately east of Foussat Road and west of Fireside Street. The project site includes 15 parcels, comprised of Assessors' Parcel Numbers (APNs) 160-270-31, -79, and -82; 160-280-14, -48, -49, -50, -51, -53, -54, and -55; 160-290-58, -60, -63; and 160-270-77 (a parcel located at the northeastern corner of Foussat Road and SR 76 that is currently owned by the City). Surrounding land uses include the San Luis Rey River located north and west of the property, the Oceanside Municipal Airport to the west, Oceanside Fire Department Station No. 7 to the south (between SR 76 and Mission Avenue), the City of Oceanside's (City's) Mission Basin Groundwater Purification Facility located to the northeast, and a combination of single-family residential and commercial development and open space located to the east and south. A San Diego Gas & Electric (SDG&E) transmission line easement traverses the center of site in a north-south direction. The site has previously been used as a drive-in movie theater and swap meet. See Figure 1, *Regional Location*, and Figure 2, *Project Vicinity*.

1.3 PROJECT DESCRIPTION

O'Side Partnership, LLC proposes to construct the project at the former Oceanside swap meet site located at 3480 Mission Avenue, Oceanside, CA 92054. The project site encompasses approximately 92 acres plus a City parcel for a total of approximately 94 acres. The project site is currently zoned as Community Commercial with a Community Commercial General Plan Land Use Designation. Mixed use development is allowed under the current Community Commercial zoning, subject to approval of a Mixed-Use Development Plan and Conditional Use Permit. The project proposes approximately 36 acres of commercial uses within the central/southwestern portion of the site and approximately 36 acres of residential uses within the northern and eastern portions of the site. The remaining 20 acres of the site are proposed to be preserved as open space, including a 4-acre stepping-stone wildlife corridor located along the eastern property boundary.

The proposed Mixed-Use Development Plan would be an integrated plan, where uses would be sited to share parking, traffic circulation and an alternative transportation system, recreational and open space areas, and utilities and infrastructure. The proposed project site would be developed in two integrated areas – a resort community and a residential area. Commercial uses within the resort community component are proposed to include a 300-room resort hotel, a conference facility, a surf lagoon beach club, and 11 commercial buildings consisting of approximately 126,400 SF of office, retail, restaurants, and fitness uses. Total developed area would constitute approximately 486,100 SF. Approximately

1,050 parking spaces are proposed to accommodate the commercial uses, in addition to 106 short- and long-term bicycle parking spaces within the commercial area, including 14 long-term spaces for the hotel. The residential uses are proposed to include approximately 700 dwelling units (DU) within nine residential lots. See Figure 3, *Draft Mixed-Use Development Plan*.

The project would be designed consistent with the Zoning Ordinance and consistent with the General Plan Housing Element and Land Use Element. The project proposes a reduced density of commercial uses compared to the 950,000 SF of commercial uses proposed under the approved the Pavilion at Oceanside project. The proposed commercial uses would be designed to be consistent with the development regulations of the Community Commercial zoning, including standards related to building coverage, landscaping, parking, and setbacks. The mixed-use development would also include residential uses located adjacent to the existing residential areas to the east and north of the project site. Establishment of appropriate setbacks and consistency with the development standards presented in the Mixed-Use Development Plan prepared for the project would ensure that the proposed residential uses would be compatible with existing surrounding development and City standards.

The site is currently being graded in compliance with the prior approval and pursuant to required conditions of the previously approved Pavilion at Oceanside project (the 88.3-acre Reduced Project/Draft Subarea Plan Alternative). Applicable mitigation measures have been/are being completed pursuant to the Mitigation Monitoring and Reporting Program prepared for that project. Approximately 300,000 cubic yards (CY) of fill are planned to be imported to support project uses. Construction of the residential component will be subject to market conditions and would require the review and approval of subsequent land use applications as required for each specific development proposal.

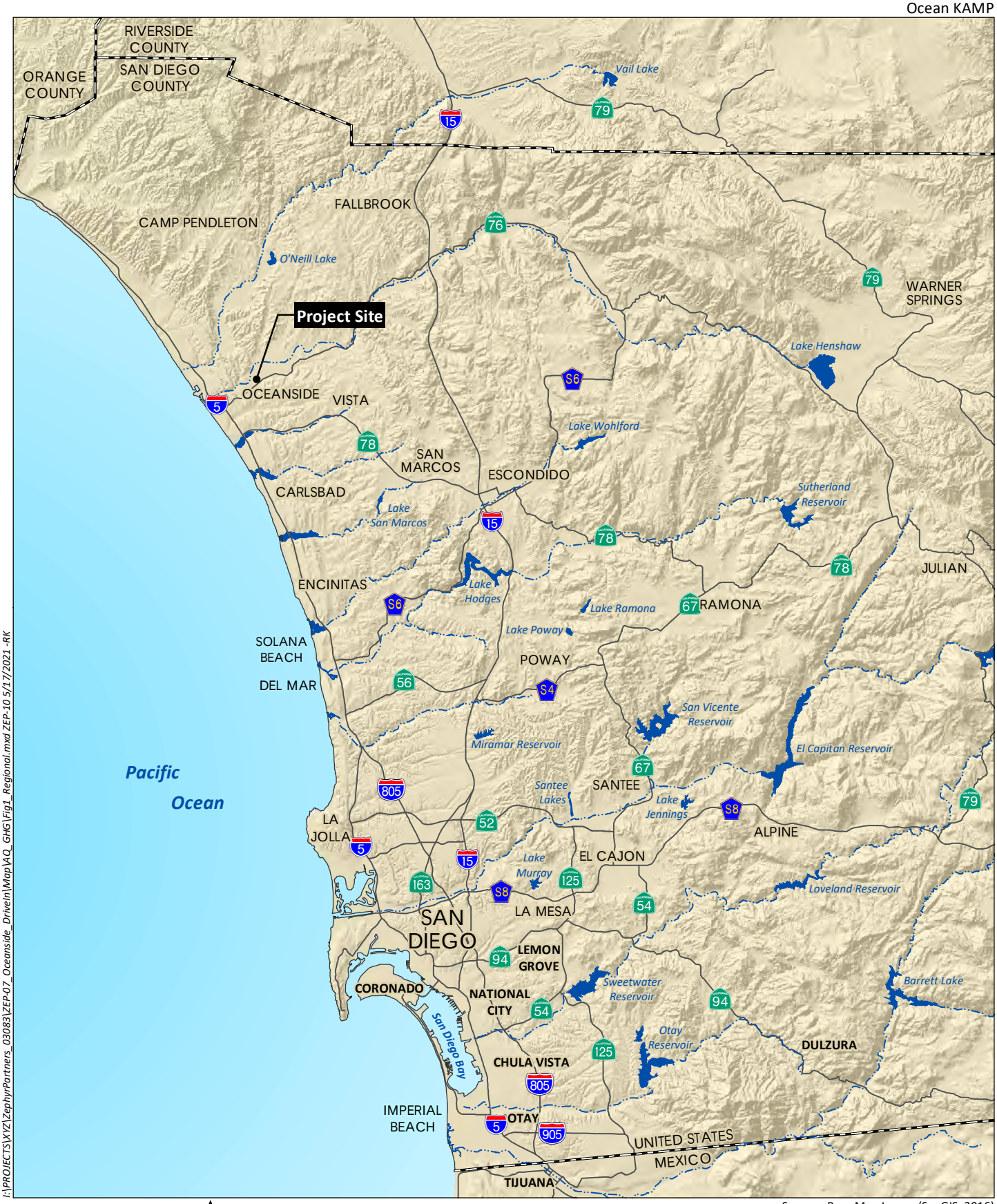
1.4 CONSTRUCTION ACTIVITIES AND PHASING

The project would be constructed in one phase with at least a portion of the residential component building construction to be completed concurrent with the resort of the resort. Any remaining residential development would be constructed according to market demand following completion of the resort. Project construction activities would consist of grading, installation of underground utilities, internal street and parking area paving, building construction, and architectural coatings. At the time of this analysis, grading of the project site has commenced in accordance with the previously approved Pavilion at Oceanside project. Grading would continue after approval of the project and be complete in approximately December 2021. A net import of approximately 300,000 cubic yards of fill is anticipated during final grading. Construction of the project is anticipated to be complete in approximately August 2023.

1.4.1 Construction Best Management Practices

The project would incorporate BMPs during construction to reduce emissions of fugitive dust. The San Diego Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line. SDAPCD Rule 55 requires the following (SDAPCD 2009):

(1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.



I:\PROJECTS\XYZ\ZephyrPartners_03083\ZEP-07_Oceanside_DriveIn\Map\AQ_GHG\Fig1_Regional.mxd ZEP-10 5/17/2021 - RK

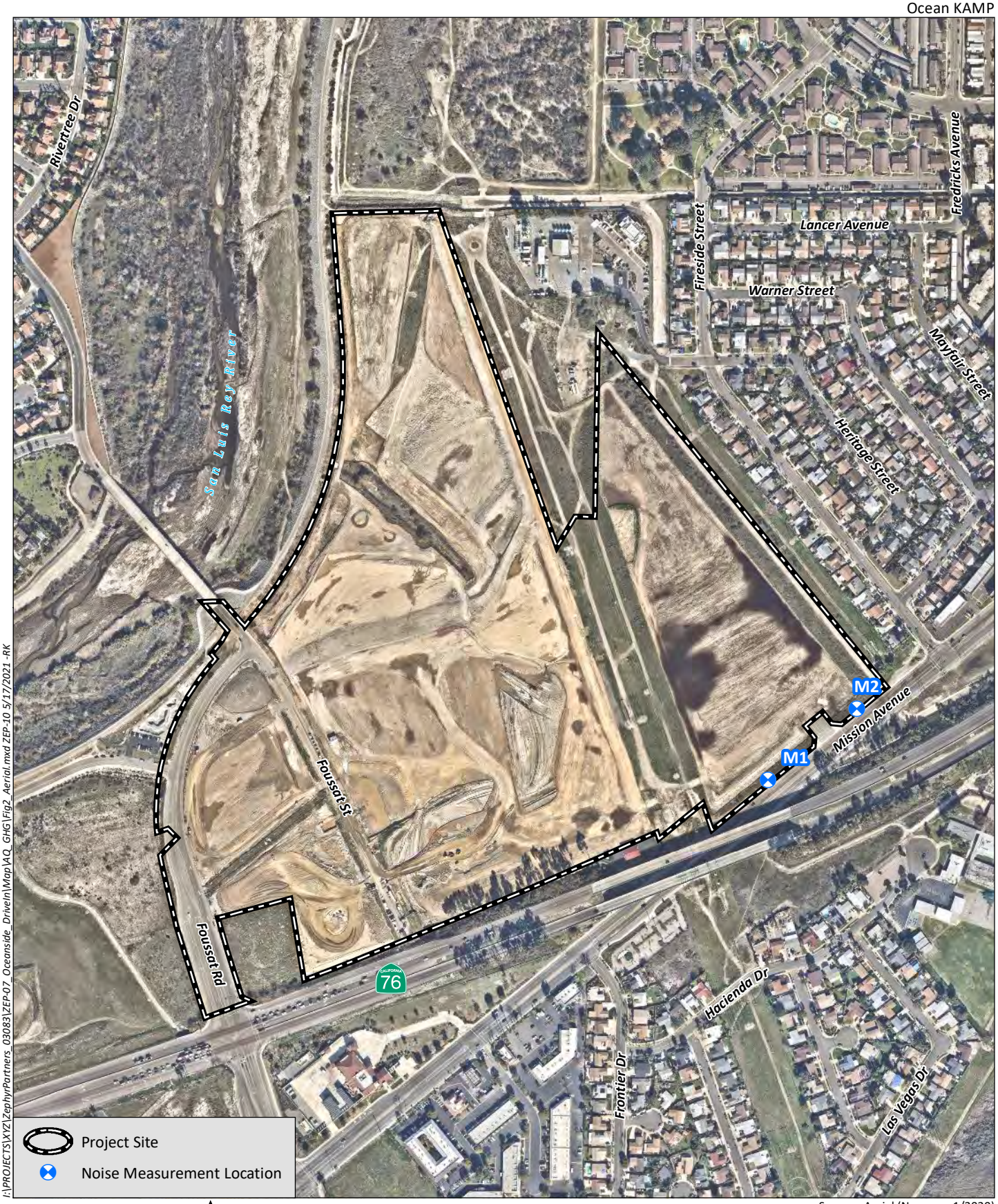
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



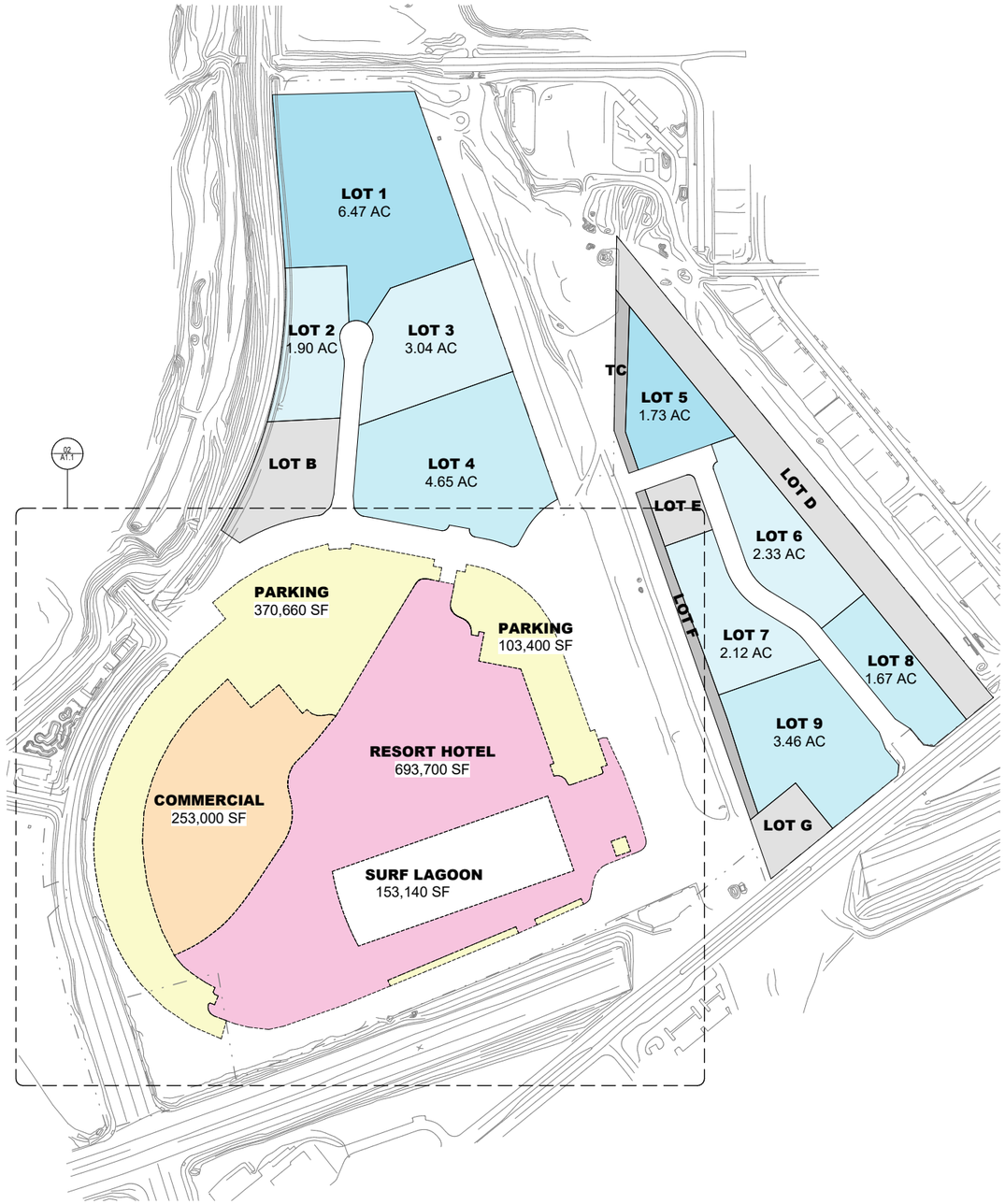
I:\PROJECTS\XYZ\ZephyrPartners_03083\ZEP-07_Oceanside_DriveIn\Map\AQ_GHG\Fig2_Aerial.mxd ZEP-10 5/17/2021 -RK

Source: Aerial (Nearmap 1/2020)

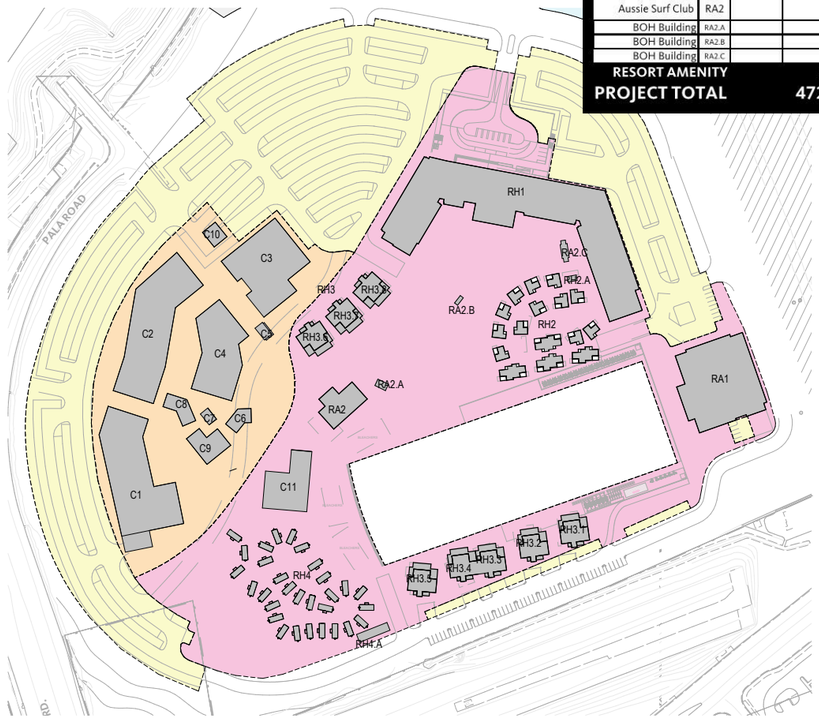
HELIX Environmental Planning

Project Vicinity

Figure 2



01 OVERALL SITE PLAN - MIXED USE DEVELOPMENT PLAN



02 SITE PLAN - COMMERCIAL USE

		NSF	Proposed SF	CBC Group	ALUCP Land Use Type	Proposed Grade (FT/ASL)	PROPOSED MAX. HEIGHT (50FT MAX. FROM CURRENT GRADE)
Commercial	C1	25,200	**27,000**	M/B	COMMUNITY/NEIGHBORHOOD SHOPPING CENTERS <300,000SF WITH MIXTURE OF USES INCLUDING EATING/DRINKING ESTABLISHMENTS (APPROX. 120 SF/PERSON); OFFICE	43	**48**
	LEVEL 2	9,850	**11,000**				
Commercial	C2	25,430	**27,000**	M/B		44 & 45	**49**
	LEVEL 2	7,300	**9,000**				
Commercial	C3	16,590	**18,000**	M		46 & 47	**40**
Commercial	C4	15,110	**17,000**	M/B		46	**34.5**
	LEVEL 2	2,960	**4,000**				
Commercial	C5	590	**700**	M		46	**19**
Commercial	C6	1,530	**2,000**	M		45	**18**
Commercial	C7	550	**700**	M		45	**14**
Commercial	C8	2,150	**2,500**	M		45	**21**
Commercial	C9	3,460	**4,000**	M		45	**23**
Commercial	C10	1,280	**1,500**	M		47	**18**
Commercial	C11	6,500	**8,000**	A-3		44	**30**
	L02	1500	**2,000**				
COMMERCIAL		**120,000**	**134,400**				
Hotel	RH1		**80,000**	R-1	HOTELS, MOTELS (EXCEPT CONFERENCE/ASSEMBLY FACILITIES) (APPROX. 200 SF/PERSON)	48	**50**
	L02		**52,000**				
	L03		**60,000**				
	L04		**45,000**				
(20 Casitas) Hotel	RH2		**12,000**	R-1		46	**14**
BOH Building	RH2.A		**200**	S-2	LOW-HAZARD STORAGE: MINI-STORAGE, GREENHOUSES	46	**14**
(18 Villas) Hotel	RH3		**21,000**				
	L02		**21,000**	R-1	HOTELS, MOTELS (EXCEPT CONFERENCE/ASSEMBLY FACILITIES) (APPROX. 200 SF/PERSON)	varies	**28(2l) / 42(3L)**
	L03		**5,250**				
33 (Airstream) Hotel	RH4		**13,000**	R-1		43	**12**
BOH Building	RH4.A		**1,500**	S-2	LOW-HAZARD STORAGE: MINI-STORAGE, GREENHOUSES	44	**14**
RESORT HOTEL			**310,950**				
Conference	RA1		**18,000**	A-2	INDOOR LARGE ASSEMBLY ROOM (CAPACITY 300 TO 999 PEOPLE): SPORTS ARENAS, THEATERS, AUDITORIUMS, ASSEMBLY HALLS (APPROX. 15 SF/PERSON)	49.5	**32**
Aussie Surf Club	RA2		**8,000**	A-3	HOTELS, MOTELS (EXCEPT CONFERENCE/ASSEMBLY FACILITIES) (APPROX. 200 SF/PERSON)	44	**18**
BOH Building	RA2.A		**800**	S-2	LOW-HAZARD STORAGE: MINI-STORAGE, GREENHOUSES	45	**14**
BOH Building	RA2.B		**200**	S-2		45	**14**
BOH Building	RA2.C		**500**	S-2		45	**14**
RESORT AMENITY			**27,500**				
PROJECT TOTAL			**472,850**				

Source: Gensler 2019

(2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

(i) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation:

(a) track-out grates or gravel beds at each egress point;

(b) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;

(c) using secured tarps or cargo covering, watering, or treating of transported material; and

(ii) be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM_{10}-efficient (particulate matter less than 10 microns) street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

The control measures listed below are the BMPs that the project would incorporate for dust control and are included in the modeling:

- A minimum of two applications of water shall be applied during grading between dozer/grader passes;
- Paving, chip sealing, or chemical stabilization of internal roadways shall be applied after completion of grading;
- Grading shall be terminated if winds exceed 25 miles per hour (mph);
- All exposed surfaces shall maintain a minimum soil moisture of 12 percent;
- Dirt storage piles shall be stabilized by chemical binders, tarps, fencing, or other erosion control; and
- Vehicle speeds shall be limited to 15 mph on unpaved roads.

2.0 AIR QUALITY

2.1 AIR QUALITY REGULATORY SETTING

The project site is located within the San Diego Air Basin (SDAB). Air quality in the SDAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the SDAPCD at the regional level.

2.1.1 Air Pollutant Descriptors and Terminology

2.1.1.1 Criteria Air Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, criteria air pollutants include the following compounds:

- Ozone (O_3)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Particulate matter (PM), which is further subdivided:
  - Coarse PM, 10 micrometers or less in diameter (PM_{10})
  - Fine PM, 2.5 micrometers or less in diameter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO_2, PM_{10}, and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])[1] and nitrogen oxides (NO_X).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants*, based on information provided by the California Air Pollution Control Officers Association ([CAPCOA] 2020). Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the project.

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Table 1
SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2020

2.1.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs may be carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs

differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2020a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2020a).

2.1.2 Federal Regulations

2.1.2.1 Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to the health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards (AAQS) for these pollutants.

Table 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary

Table 2 (cont.)
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2016

[1] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM_{10}: large particulate matter; AAM: Annual Arithmetic Mean; $PM_{2.5}$: fine particulate matter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2 nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer; –: No Standard.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. Areas that do not meet the NAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. The area air quality attainment status of the SDAB, is shown in Table 3, *San Diego Air Basin Attainment Status*. On August 3, 2018, the SDAB was classified as a moderate nonattainment area for the 8-hour NAAQS for ozone (SDAPCD 2020a). The SDAB is an attainment area or unclassified for the NAAQS for all other criteria pollutants including PM_{10} and $PM_{2.5}$.

Table 3
SAN DIEGO AIR BASIN ATTAINMENT STATUS

Pollutant	State of California Attainment Status	Federal Attainment Status
Ozone (1-hour)	(No federal standard)	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM_{10})	Unclassifiable[1]	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide ($N0_2$)	Attainment	Attainment
Lead	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Sources: SDAPCD 2020a.

[1] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

2.1.3 State Regulations

2.1.3.1 California Clean Air Act

CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the seven criteria air pollutants listed above through the California Clean Air Act of 1988 (CCAA), and has also established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride and visibility-reducing particles (see Table 2). Areas that do not meet the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (1-hour and 8-hour), PM_{10}, and $PM_{2.5}$ (SDAPCD 2020a). The current state attainment status for the SDAB is provided in Table 3, above.

CARB is the state regulatory agency with the authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The SDAPCD is responsible for developing and implementing the rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, developing of air quality management plans, and adopting and enforcing air pollution regulations for San Diego County.

2.1.3.2 State Implementation Plan

The CAA requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead

agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items that are included in the California SIP (CARB 2009). At any one time, several California submittals are pending USEPA approval.

2.1.3.3 California Energy Code

California Code of Regulations (CCR) Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results primarily in GHG emissions. The California Energy Code is discussed in further detail in Section 3, below.

2.1.3.4 Toxic Air Contaminants

The Health and Safety Code (§39655, subd. (a)) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

2.1.4 Local Regulations

2.1.5 Attainment Plan

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County is SDAPCD's *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan; SDAPCD 2020b). The Attainment Plan, which would be a revision to the SIP, outlines SDAPCD's plans and control measures designed to attain the national ambient air quality standard (NAAQS) for ozone. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

2.1.6 San Diego Air Pollution Control District Rules and Regulations

Future development pursuant to the project would be required to comply with SDAPCD Rules and Regulations which require the incorporation of best management practices (BMPs) during construction to reduce emissions of fugitive dust.

2.1.6.1 Rule 50 (Visible Emissions)

Particulate matter pollution impacts the environment by decreasing visibility (haze). These particles vary greatly in shape, size and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of $PM_{2.5}$. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment.

Visibility reduction is probably the most apparent symptom of air pollution. Visibility degradation is caused by the absorption and scattering of light by particles and gases in the atmosphere before it reaches the observer. As the number of fine particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range. Light absorption by gases and particles is sometimes the cause of discolorations in the atmosphere but usually does not contribute very significantly to visibility degradation. Scattering by particulates impairs visibility much more readily. SDAPCD Rule 50 (Visible Emissions) sets emission limits based on the apparent density or opacity of the emissions using the Ringelmann scale (SDAPCD 1997).

2.1.6.2 Rule 51 (Nuisance)

SDAPCD Rule 51 (Nuisance) states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of the rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals (SDAPCD 1976).

2.1.6.3 Rule 55 (Fugitive Dust Control)

SDAPCD Rule 55 (Fugitive Dust Control) requires action be taken to limit dust from construction and demolition activities from leaving the property line. Similar to Rule 50 (Visible Emissions), Rule 55 (Fugitive Dust Control) places limits on the amount of visible dust emissions in the atmosphere beyond the property line. It further stipulates that visible dust on roadways as a result of track-out/carry-out shall be minimized through implementation of control measures and removed at the conclusion of each workday using street sweepers (SDAPCD 2009).

2.1.6.4 Rule 67.0.1 (Architectural Coatings)

Construction of development within the Specific Plan is required to comply with SDAPCD Rule 67.0.1 (Architectural Coatings) which requires residential interior/exterior flat coatings to be less than or equal to 50 grams per liter VOC content and interior/exterior non-flat coatings to be less than or equal to 50 grams per liter VOC content (SDAPCD 2021).

2.2 AIR QUALITY EXISTING CONDITIONS

The project site is located in a generally suburban residential area at the northwestern edge of the City. The project site currently is currently vacant. Land uses surrounding the project site include single-family residential neighborhoods approximately 100 feet east of the project site, across the San Luis Rey River to the west, and across SR-76 to the south. An area of commercial/retail development is located across

SR-76 to the south and the Oceanside Municipal Airport is located approximately 800 feet to the west (see Figure 2).

2.2.1 Climate/Meteorology

The climate in southern California, including the SDAB, is controlled largely by the large-scale meteorological condition that dominates the west coast of the Undated States: a seasonally semi-permanent high-pressure cell centered over the northeastern Pacific Ocean, called the Pacific high, which keeps most storms from affecting the California coast. Areas within 30 miles of the coast in the San Diego region, including the project site, experience moderate temperatures and comfortable humidity.

Temperature inversion layers (inversions; layers of warmer air over colder air) affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SDAB generally occur during inversions. During the summer, air quality problems in the SDAB are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons (VOCs) and NO_X react under the strong, abundant sunlight in the San Diego region, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to CO and NO_X emissions. High NO_X levels usually occur during autumn or winter, on days with summer-like conditions.

The predominant wind direction in the vicinity of the project site is from the southwest and the average wind speed is approximately four mph (Iowa Environmental Mesonet [IEM] 2019). The annual average maximum temperature in the project area is approximately 68 degrees Fahrenheit (°F), and the annual average minimum temperature is approximately 53°F. Total precipitation in the project area averages approximately 11 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2016).

2.2.2 Existing Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the San Diego region. The air quality monitoring station closest to the project site is the Camp Pendleton Station, approximately 3 miles to the west. The closest monitoring station with data for PM_{10} and $PM_{2.5}$ is the San Diego-Kearny Villa Road monitoring station, approximately 24 miles south of the project site. The ambient pollutant concentrations collected at the stations during the last three available years (2017 through 2019) are shown in Table 4, *Air Quality Monitoring Data*. The data indicates exceedance of the state/federal 8-hour ozone standards on four days in 2016. No other air quality standards were determined to be exceeded from 2017 to 2019.

Table 4
AIR QUALITY MONITORING DATA

Pollutant Standard	2017	2018	2019
Ozone (O_3) – Camp Pendleton Station			
Maximum concentration 1-hour period (ppm)	0.094	0.084	0.075
Maximum concentration 8-hour period (ppm)	0.081	0.068	*0.064*
Days above 1-hour state standard (>0.09 ppm)	0	0	0
Days above 8-hour state/federal standard (>0.070 ppm)	4	0	0
Coarse Particulate Matter (PM_{10}) – San Diego-Kearney Villa Road Station			
Maximum 24-hour concentration (µg/m^3)	46.0	38.0	*
Measured Days above 24-hr state standard (>50 µg/m^3)	0	0	*
Measured Days above 24-hr federal standard (>150 µg/m^3)	0	0	*
Annual average (µg/m^3)	17.6	18.4	*
Exceed state annual standard (20 µg/m^3)	No	No	*
Fine Particulate Matter ($PM_{2.5}$) – San Diego-Kearney Villa Road Station			
Maximum 24-hour concentration (µg/m^3)	27.5	32.2	16.2
Measured Days above 24-hour federal standard (>35 µg/m^3)	0	0	0
Annual average (µg/m^3)	7.9	8.3	7.0
Exceed state and federal annual standard (12 µg/m^3)	No	No	No
Nitrogen Dioxide (NO_2) – Camp Pendleton Station			
Maximum 1-hour concentration (ppm)	0.063	0.048	0.053
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.006	*	0.005
Exceed annual federal standard (0.053 ppm)	No	*	No
Exceed annual state standard (0.030 ppm)	No	*	No

Source: CARB 2020b.
ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter, * = insufficient data available.

2.2.3 Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptors to the project site are single-family homes located approximately 100 feet east of the project site. The closest existing public school to the site is the San Luis Rey Elementary School located at 3535 Hacienda Drive, approximately 600 feet (0.11 mile) southeast of the project site.

2.3 AIR QUALITY METHODOLOGY

Air emissions from mobile, area, and energy sources were calculated using CalEEMod, version 2016.3.2. CalEEMod is a computer model used to estimate air emissions resulting from land development projects

throughout the state of California. CalEEMod was developed by CAPCOA in collaboration with the California air quality management and pollution control districts, primarily the SCAQMD. The calculation methodology, source of emission factors used, and default data is described in the CalEEMod User's Guide, and Appendices A, D, and E (CAPCOA 2017).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and greenhouse gas emissions from mobile (i.e., vehicular) sources, area sources (fireplaces, woodstoves, and landscape maintenance equipment), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, and solid waste disposal. Emissions are estimated based on land use information input to the model by the user.

In the first module, the user defines the specific land uses that will occur at the project site. The user also selects the appropriate land use setting (urban or rural), operational year, location, climate zone, and utility provider. The input land uses, size features, and population are used throughout CalEEMod in determining default parameters and calculations in each of the subsequent modules. The input land use information consists of land use subtypes (such as the residential subtypes of single-family residential and multi-family medium-rise residential) and their unit or square footage quantities.

Subsequent modules include construction (including off-road vehicle emissions), mobile (on-road vehicle emissions), area sources (architectural coatings [painting], consumer products [cleansers, aerosols, solvents]), water and wastewater, and solid waste. Each module comprises multiple components including an associated mitigation module to account for further reductions in the reported baseline calculations. Other inputs include trip generation rates, trip lengths, vehicle fleet mix (percentage autos, trucks, etc.), trip distribution (percent work to home, etc.), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters.

In various places the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this assessment, the default parameters were not changed unless otherwise noted. The CalEEMod output files are included in Appendix A to this report.

2.3.1 Construction Emissions

2.3.1.1 Construction Activities

Construction emissions were estimated based on the timeline provided by the project applicant, which assumes the resort and a portion of the project residential component would be compete in August 2023. Any remaining residential development would be completed depending on market conditions. To be conservative in analyzing the highest potential project emissions, this analysis assumes full build out of all residential units (700 DU). The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Construction activities would include continuation of grading, installation underground utilities, internal streets and parking area paving, building construction, and architectural coatings. Construction is assumed to occur five days per week with equipment operating up to eight hours per day. Installation underground utilities is assumed to occur concurrently with the last 3 months of grading. Architectural coatings are assumed to occur concurrently with the last six months of building construction. The construction schedule assumed in the modeling is shown in Table 5, *Anticipated Construction Schedule.*

Table 5
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Final Grading	7/1/2021	12/31/2021	132
Underground Utilities	10/1/2021	12/31/2021	66
Paving	1/1/2022	2/28/2022	41
Building Construction	3/1/2022	8/31/2023	383
Architectural Coatings	3/1/2023	8/31/2023	132

Source: Zephyr Oceanside LLC; CalEEMod

The modeling assumes conformance with SDAPCD Rule 67, as described in Section 2.1.4, limiting the VOC content of architectural coatings to 50 g/L. The modeling also assumes fugitive dust control in accordance with the SDAPCD Rule 55 and the BMPs described in Section 1.4.1, specifically watering exposed areas twice per day, enforcing a 15 mph speed limit on unpaved surfaces, and maintaining a minimum moisture content of 12 percent for unpaved roads.

2.3.1.2 Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. Construction equipment estimates are based on default values in CalEEMod, Version 2016.3.2 with additional equipment added for excavation for underground utilities, based on assumptions used for similar projects, and with the addition of water trucks during grading. Table 6, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 6
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Equipment	Horsepower	Number	Hours/Day
Grading			
Excavators	158	2	8
Graders	187	1	8
Rubber Tired Dozers	247	1	8
Scrapers	367	2	8
Tractors/Loaders/Backhoes	97	2	8
Water Trucks	402	2	8
Underground Utilities			
Excavators	158	1	8
Skid Steer Loaders	65	1	8
Tractors/Loaders/Backhoes	97	2	8

Table 6 (cont.)
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Equipment	Horsepower	Number	Hours/Day
Paving			
Pavers	130	2	8
Paving Equipment	132	2	8
Rollers	80	2	8
Building Construction			
Cranes	231	1	7
Forklifts	89	3	8
Generator Sets	84	1	7
Tractors/Loaders/Backhoes	97	3	8
Welders	46	1	8
Architectural Coating			
Air Compressors	78	1	6

Source: CalEEMod.

2.3.1.3 Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 15 and 1,528 trips per day, depending on construction activity. Haul truck trips were based on the grading fill estimate and pavement area. Approximately 37,500 total haul truck trips are anticipated during grading, and 5,900 total haul truck trips during paving. Approximately 0.25 mile of every haul truck trip during grading was assumed to be on unpaved on-site access roads. The CalEEMod default worker, vendor and haul trip distances were used in the model.

2.3.2 Operational Emissions

2.3.2.1 Area Source Emissions

Area sources include emissions from landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Emissions associated with area sources were estimated using the CalEEMod default values with the exception of hearths—the project would not include wood burning stoves or fireplaces, or natural gas fireplaces.

2.3.2.2 Energy Emissions

Development within the project would use electricity for lighting, heating, and cooling. Natural gas and electricity would be supplied by San Diego Gas and Electric. Direct emissions from the burning of natural gas may result from furnaces, hot water heaters, and kitchen appliances. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant) and is included in the GHG analysis in Section 3, below.

2.3.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with vehicle trip generation and trip length. Based on the project trip generation rate from the Local Transportation Study, the project would generate 19,040 average weekday trips and 14,426 average weekend trips (Linscott, Law & Greenspan,

Engineers [LLG] 2021a). A trip distance of 4.4 miles for the project residential trips taken from the SANDAG Series 13 Year 2020 Travel Demand Model Results, provided in Appendix A to the project Vehicle Miles Traveled Study (LLG 2021b). Trip distances for the resort component of the project were taken from the SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates: Hotel – 7.6 miles; Commercial/Retail – 5.2 miles; and Wave Pool – 7.6 miles (SANDAG 2002).

The model default car and light truck vehicle emissions factors were adjusted using correction factors for EMFAC2014 data provided by CARB to account for the USEPA Final SAFE Rule which relaxed federal greenhouse gas emissions and Corporate Average Fuel Economy (CAFE) standards (CARB 2020c).

2.4 AIR QUALITY SIGNIFICANCE CRITERIA

Thresholds used to evaluate potential air quality and odor impacts are based on applicable criteria in the State's California Environmental Quality Act (CEQA) Guidelines Appendix G. A significant air quality and/or odor impact could occur if the implementation of the proposed project would:

1. Conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP; or

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is non-attainment under an applicable NAAQS or CAAQS; or

3. Expose sensitive receptors to substantial pollutant concentrations; or

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

To determine whether the project would result in a cumulatively considerable net increase of PM_{10}, $PM_{2.5}$, or the ozone precursors NO_X and VOCs, emissions were evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs; 2019).

For CEQA purposes, these screening criteria were used as numeric methods to determine if the project would result in a significant impact to air quality or an adverse effect on human health. The screening thresholds are shown in Table 7, *Screening-level Thresholds for Air Quality Impact Analysis*.

Table 7
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant	Total Emissions		
Construction Emissions (Pounds/Day)			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	67		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	137		
Operational Emissions			
	Pounds per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	67	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	137	15
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: SDAPCD 2019
T-BACT = Toxics-Best Available Control Technology

SDAPCD Rule 51 (Nuisance) prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor complaints from a "considerable" number of persons or businesses in the area would be considered to be a significant, adverse odor impact.

2.5 AIR QUALITY IMPACT ANALYSIS

2.5.1 Issue 1: Consistency with the Attainment Plan

Consistency with applicable air quality plan was analyzed in the Pavilion at Oceanside Project Air Quality Conformance Assessment, which concluded the proposed Oceanside Pavilion at Oceanside project would develop a proposed use consistent with the current land use designation for the site and would, therefore, be consistent with the San Diego Regional Air Quality Strategy (RAQS [the applicable air quality plan in 2008]) and the SIP (Investigative Science and Engineering 2008).

The Attainment Plan outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD relies on the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the

emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from CARB and SANDAG, including projected growth in the County, mobile, area and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the Attainment Plan. In the event that a project proposes development which is less dense than anticipated within the General Plan, the project would likewise be consistent with the Attainment Plan. If a project proposes development that is greater than that anticipated in the County General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project may be in conflict with the Attainment Plan and SIP and may have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the project and the surrounding projects exceed the growth projections used in the Attainment Plan for the specific subregional area.

The project site is currently zoned as Community Commercial with a Community Commercial General Plan Land Use Designation. Mixed use development is allowed under the current Community Commercial zoning, subject to approval of a Mixed-Use Development Plan and Conditional Use Permit.

A project would be inconsistent with the Attainment Plan and/or SIP if it results in population and/or employment growth that exceed growth estimates for the area. While the project would increase the number of residential dwelling units in the County and would contribute to transportation-generated air pollutants, this would generally be in response to population growth forecasts and the resulting County-wide demand for housing. The Attainment Plan and SIP rely on the same information from the SANDAG growth forecast to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. Because the project is consistent with the existing land use designation and would not generate population growth beyond the levels assumed for the region, the project would not conflict with any population projections for the region and would, therefore, be consistent with the Attainment Plan and SIP. In addition, as detailed in Section 2.5.2, below, the project would not result in a significant air quality impact with regards to emissions of ozone precursors or criteria air pollutants. According to the Local Transportation Study, the project is anticipated to generate 19,040 average daily weekday trips (LLG 2021a). The previously approved Pavilion at Oceanside project would generate 32,175 average daily trips, approximately 69 percent more trips than the project. Because mobile emissions are the primary source of criteria pollutants for residential and commercial development projects, from an air quality perspective, the project would result in less intensive development than the previously approved Pavilion at Oceanside project. Therefore, the project would not conflict with or obstruct implementation of the Attainment Plan or SIP.

2.5.1.1 Significance of Impact

The project would not conflict with or obstruct implementation of the Attainment Plan or SIP and the impact would be less than significant.

2.5.1.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

2.5.2 Issue 2: Cumulatively Considerable Net Increase of Nonattainment Criteria Pollutants

The significance of construction and operation emissions of criteria pollutant and precursors was analyzed in the Pavilion at Oceanside Project Air Quality Conformance Assessment which concluded the proposed Oceanside Pavilion at Oceanside project would not result in emissions in excess of the SDAPCD thresholds.

The project would generate criteria pollutants in the short-term during construction and the long-term during operation. To determine whether a project would result in a cumulatively considerable net increase in criteria pollutant emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD (as shown in Table 7).

2.5.2.1 Construction Criteria Pollutant and Precursor Emissions

The project's temporary construction emissions were estimated using CalEEMod as described in Section 2.3. The results of the modeling of the project's construction emissions of criteria pollutants and ozone precursors are shown in Table 8, *Unmitigated Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds. The complete CalEEMod output is provided in Appendix A to this report.

Table 8
UNMITIGATED MAXIMUM DAILY CONSTRUCTION EMISSIONS

Construction Phase	VOC (lb/day)	NO_X (lb/day)	CO (lb/day)	SO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Grading	7.7	130.4	57.6	0.3	47.0	8.9
Underground Utilities	0.8	8.0	9.7	0.0	0.5	0.4
Paving	4.1	45.2	24.4	0.1	3.3	1.3
Building Construction - 2022	8.8	65.1	64.8	0.3	16.8	5.2
Building Construction - 2023	8.1	53.7	60.8	0.3	16.6	5.0
Architectural Coatings - 2023	55.5	1.9	8.4	0.0	2.6	0.8
Maximum Daily Emissions[1, 2]	**63.6**	**138.4**	**69.2**	**0.3**	**47.5**	**9.3**
SDAPCD Thresholds	*137*	*250*	*550*	*250*	*100*	*67*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; USEPA AP-42 (output data is provided in Appendices A and B)

1 Totals may not sum due to rounding.

2 The maximum daily emissions of VOCs and CO would be the sum of the 2023 Building Construction and Architectural Coatings which would occur concurrently. The maximum daily emissions of all other pollutants would be the sum of Grading and Underground Utilities, which would occur concurrently.

lb/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SDAPCD = San Diego County Air Pollution Control District

As shown in Table 8, the project's temporary construction-related criteria pollutant and precursor emissions would be below the SDAPCD's significance thresholds. Therefore, the project's construction activities would not result in a cumulatively considerable net increase of criteria pollutants that would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the project's construction activities would not result in a cumulatively considerable

net increase of criteria pollutants that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

2.5.2.2 Operation Criteria Pollutant and Precursor Emissions

The project's long-term maximum daily and annual operational emissions were estimated using CalEEMod as described in Section 2.3. The results of the modeling of the project's operational emissions of criteria pollutants and precursors are shown in Table 9, *Operational Emissions*. The data are presented as the maximum anticipated daily emissions and annual emissions for comparison with the SDAPCD thresholds. The complete CalEEMod output is provided in Appendix A to this report.

As shown in Table 9 the project's long-term emissions of criteria pollutants and precursors would not exceed the SDAPCD daily or annual screening thresholds. Therefore, the project's operational activities would not result in a cumulatively considerable net increase of criteria pollutants that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Table 9
OPERATIONAL EMISSIONS

Source	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Daily Emissions (pounds per day)						
Area	31.9	0.7	57.8	<0.1	0.3	0.3
Energy	0.3	2.5	1.1	<0.1	0.2	0.2
Mobile	23.4	89.1	247.1	0.8	80.7	22.0
Total Project Emissions[1]	**55.6**	**92.3**	**305.9**	**0.9**	**81.3**	**22.6**
SDAPCD Daily Thresholds	*137*	*250*	*550*	*250*	*100*	*67*
Exceed Daily Threshold?	***No***	***No***	***No***	***No***	***No***	***No***
Annual Emissions (tons per year)						
Area	5.7	<0.1	5.2	<0.1	<0.1	<0.1
Energy	<0.1	0.5	0.2	<0.1	<0.1	<0.1
Mobile	3.8	15.0	40.7	0.1	13.2	3.6
Total Project Emissions[1]	9.5	15.5	46.1	0.1	13.3	3.7
SDAPCD Annual Thresholds	*15*	*40*	*100*	*40*	*15*	*10*
Exceed Annual Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A).

[1] Totals may not sum due to rounding.

VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SDAPCD = San Diego County Air Pollution Control District

2.5.2.3 Significance of Impact

The project would not result in a cumulatively considerable net increase of criteria pollutants that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, and the impact would be less than significant.

2.5.2.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

2.5.3 Issue 3: Impacts to Sensitive Receptors

Impacts to sensitive receptors due to diesel exhaust emitted during constructions and criteria pollutants emitted during operations of the Pavilion at Oceanside project was evaluated in the Pavilion at Oceanside Project Air Quality Conformance Assessment which concluded sensitive receptors would not be exposed to substantial pollutant concentrations.

Impacts to sensitive receptors are typically analyzed for operational period CO hotspots and exposure to TACs. An analysis of the project's potential to expose sensitive receptors to these pollutants is provided below.

2.5.3.1 Construction Diesel Particulate Matter Emissions

Implementation of the project would result in the use of heavy-duty construction equipment, haul trucks, on-site generators, and construction worker vehicles. These vehicles and equipment could generate the TAC DPM. Generation of DPM from construction projects typically occurs in a localized area (e.g., at the project site) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction (e.g., grading, building construction), the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. During some equipment-intensive phases such as grading, construction-related emissions would be higher than other less equipment-intensive phases such as building construction. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005).

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (Office of Environmental Health Hazard Assessment [OEHHA] 2015). Considering this information, the highly dispersive nature of DPM, and the fact that construction activities would occur at various locations throughout the project site, it is not anticipated that construction of the project would expose sensitive receptors to substantial DPM concentrations.

2.5.3.2 Localized Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. A hotspot conformity analysis was performed for the previously approved Pavilion at Oceanside project which modeled CO concentrations along 65 road segments and concluded that the Pavilion at Oceanside project combined with existing a foreseeable future traffic would result in maximum CO concentrations of 2.7 PPM at 100 feet for the roadway (Investigative Science and Engineering 2008). Because the State 1-hour CO concentration standard is 20 PPM, and because the project is calculated to generate 13,135 fewer average daily trips (approximately 41 percent

less) than the site's previously approved Pavilion at Oceanside project, the project would not expose sensitive receptors to substantial concentrations of CO.

2.5.3.3 Significance of Impact

The project would not expose sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant.

2.5.3.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

2.5.4 Issue 4: Odors

As discussed above, the State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line of the project site will be considered a significant odor impact.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations (SCAQMD 1993). The project, involving a residential development, would not include any of these uses nor are there any of these land uses in the project vicinity.

Emissions from construction equipment, such as diesel exhaust, and VOCs from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Long-term operation of the project would not be a substantial source of objectionable odors.

2.5.4.1 Significance of Impact

The project would not create objectionable odors affecting a substantial number of people, and the impact would be less than significant.

2.5.4.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

3.0 GREENHOUSE GAS EMISSIONS

3.1 GHG SETTING

3.1.1 Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with 2016 global surface temperatures ranking as the warmest year on record since 1880. The newest release in long-term warming trends announced 2020 ranked as tied with 2016 for the warmest year on record with an increase of 1.84 degrees Fahrenheit compared to the 1951-1980 average (National Aeronautics and Space Administration [NASA] 2021). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

3.1.2 Greenhouse Gases

The GHGs defined under California's Assembly Bill (AB) 32 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). In February 2021, the CO2 concentration was 416 ppm, a 48 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2021).

Methane. CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because hydrofluorocarbons destroy stratospheric ozone, their production was stopped as required by the 1989 Montreal Protocol.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4 (IPCC 2007). To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR5 values.

By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 10, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 10
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-324a	14	1,430
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

3.2 GHG REGULATORY FRAMEWORK

All levels of government have some responsibility for the protection of air quality, and each level (federal, State, and regional/local) has specific responsibilities relating to air quality regulation. GHG emissions and the regulation of GHGs is a relatively new component of air quality management.

3.2.1 Federal GHG Regulations

3.2.1.1 Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA). The standards were established on April 1, 2010 for 2012 through 2016 model year vehicles and on October 15, 2012 for 2017 through 2025 model year vehicles (USEPA 2020; USEPA and NHTSA 2012).

3.2.1.2 Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established CAFE standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to

eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. The new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdraw of the waiver previously provided to California for that State's GHG and zero emissions vehicle (ZEV) programs under Section 209 of the CAA.

3.2.2 California GHG Regulations

There are numerous State plans, policies, regulations, and laws related to GHG emissions and global climate change. Following is a discussion of some of these plans, policies, and regulations that (1) establish overall State policies and GHG emission reduction targets; (2) require State or local actions that result in direct or indirect GHG emission reductions for the proposed project; and (3) require CEQA analysis of GHG emissions.

3.2.2.1 California Energy Code

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Title 24 standards went into effect on January 1, 2020. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards is a requirement for onsite photovoltaic electricity generation (e.g., solar panels) for most new or modified residential building up to three stories high (California Energy Commission [CEC] 2019a).

The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards – the energy budgets – that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

3.2.2.2 California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for all nonresidential buildings (including industrial buildings) and residential buildings for which no other state agency has authority to adopt green building standards. The current 2019 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2020 (California Building Standards Commission [CBSC] 2019).

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is

established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

3.2.2.3 Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

3.2.2.4 Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that the CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

3.2.2.5 Senate Bill 375

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, supports the State's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPOs). CARB periodically reviews and updates the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy (APS) to meet the targets. The APS is not a part of the RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

The SANDAG is San Diego's local MPO and has responded to the requirements of SB 375 with the preparation of a regional transportation plan/sustainable communities strategy. *San Diego Forward: The Regional Plan* (SANDAG 2015) is discussed in greater detail in Section 3.2.3, below.

3.2.2.6 Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changes transportation impact analysis as part of CEQA compliance. These changes include the elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts for land use projects and plans in California. Further, parking impacts will not be considered significant impacts on the environment for select development projects within infill areas with nearby frequent transit service. According to the legislative intent contained in SB 743, these changes to current practice were necessary to more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions.

3.2.2.7 Senate Bill 97

SB 97 required the Governor's Office of Planning and Research to develop recommended amendments to the State CEQA Guidelines for addressing GHG emissions, including the effects associated with transportation and energy consumption. The amendments became effective on March 18, 2010.

3.2.2.8 Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

3.2.2.9 Senate Bill 32 and Assembly Bill 197

As a follow-up to AB 32 and in response to EO-B-30-15, SB 32 was passed by the California legislature in August 2016 to codify the EO's California GHG emission reduction target of 40 percent below 1990 levels by 2030 and requires the State to invest in the communities most affected by climate change. AB 197 establishes a legislative committee on climate change policies to help continue the State's activities to reduce GHG emissions.

3.2.2.10 Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2020d). In January 2012, CARB approved a new emissions-control program for

model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2020d).

3.2.2.11 Assembly Bill 341

The State legislature enacted AB 341 (California Public Resource Code Section 42649.2), increasing the solid waste diversion target to 75 percent statewide. AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012 and went into effect on July 1, 2012.

3.2.2.12 Executive Order S-01-07 – Low Carbon Fuel Standard

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. As a result, CARB continues to implement the LCFS statewide.

3.2.2.13 California Air Resources Board: Climate Change Scoping Plan

On December 11, 2008, CARB adopted the Scoping Plan (CARB 2008) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the 2008 Scoping Plan includes nine measures or recommended actions related to reducing VMT and vehicle GHG emissions through fuel and efficiency measures. These measures would be implemented statewide rather than on a project by project basis.

In response to EO B-30-15 and SB 32, all state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target (CARB 2014). The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions. In December 2017, CARB adopted the *2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target,* to reflect the 2030 target set by EO B-30-15 and codified by SB 32 (CARB 2017).

3.2.3 Regional GHG Policies and Plans

3.2.3.1 San Diego Association of Government's Regional Plan

San Diego Forward: The Regional Plan (Regional Plan; SANDAG 2015) is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and

overall quality-of-life needs. The underlying purpose is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region as stipulated under SB 375. The Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth while preserving natural resources and limiting urban sprawl." The Regional Plan encourages local jurisdictions including the County of San Diego to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation. General urban form goals, policies, and objectives are summarized as follows:

- Mix compatible uses.
- Take advantage of compact building design.
- Create a range of housing opportunities and choices.
- Create walkable neighborhoods.
- Foster distinctive, attractive communities with a strong sense of place.
- Preserve open space, natural beauty, and critical environmental areas.
- Strengthen and direct development towards existing communities.
- Provide a variety of transportation choices.
- Make development decisions predictable, fair, and cost-effective.
- Encourage community and stakeholder collaboration in development decisions.

The Regional Plan also addresses border issues, providing an important guideline for communities that have borders with Mexico. In this case, the goal is to create a regional community where San Diego, its neighboring counties, tribal governments, and northern Baja California mutually benefit from San Diego's varied resources and international location.

3.2.4 Local Greenhouse Gas Plans

3.2.4.1 City of Oceanside Climate Action Plan

On May 8, 2019, the City adopted the Climate Action Pan (CAP) as a part of their General Plan Update, which also includes development of a policy framework in the General Plan Energy and Climate Action Element. The CAP is intended to support statewide efforts to cut GHG emissions by expanding local renewable energy generation, reducing energy use, promoting recycling and reuse, facilitating active transportation, enhancing access to sustainable transportation modes, and encouraging other sustainable practices. The CAP builds on a variety of City projects that promote energy efficiency, increased renewable energy use, water conservation, and solid waste reduction (City 2019a).

3.3 GHG EXISTING CONDITIONS

3.3.1 Worldwide and National GHG Inventory

In 2014, total GHG emissions worldwide were estimated at 48,892 million metric tons (MMT) of CO_2e emissions (World Resource Institute [WRI] 2020). The U.S. contributed the second largest portion (13 percent) of global GHG emissions in 2014. The total U.S. GHG emissions was 6,319 MMT CO_2e in 2019, of which 82 percent was CO_2 emission (WRI 2020). On a national level, approximately 27 percent of GHG emissions were associated with transportation and about 38 percent were associated with electricity generation (WRI 2020).

3.3.2 State GHG Inventories

CARB performed statewide inventories for the years 1990 to 2017, as shown in Table 11, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into six broad sectors of economic activity: agriculture, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in MMT CO2e. As shown in Table 11, statewide GHG source emissions totaled 431 MMT CO2e in 1990, 471 MMT CO2e in 2000, 449 MMT CO2e in 2010, and 424 MMT CO_2e in 2017. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2019).

Table 11
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO_2e)			
	1990	2000	2010	2017
Agriculture and Forestry	18.9 (4%)	31.0 (7%)	33.7 (8%)	32.4 (8%)
Commercial	14.4 (3%)	14.1 (3%)	20.1 (4%)	23.3 (5%)
Electricity Generation	110.5 (26%)	105.4 (22%)	90.6 (20%)	62.6 (15%)
Industrial	105.3 (24%)	105.8 (22%)	101.8 (23%)	101.1 (24%)
Residential	29.7 (7%)	31.7 (7%)	32.1 (7%)	30.4 (7%)
Transportation	150.6 (35%)	183.2 (39%)	170.2 (38%)	174.3 (41%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
TOTAL	**430.7**	**471.1**	**448.5**	**424.1**

Source: CARB 2007 and CARB 2019
MMT = million metric tons; CO_2e = carbon dioxide equivalent

3.3.3 Regional GHG Inventory

A San Diego regional emissions inventory that was prepared for the San Diego County Climate Action Plan accounted for the unique characteristics of the region (San Diego County 2018). The 2014 emissions inventory for San Diego is presented in Table 12, *San Diego County GHG Emissions by Sector*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 12
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR

Sector	2014 Emissions MMT CO_2e (% total)[1]
On-Road Transportation	1.46 (45%)
Electricity	0.76 (24%)
Solid Waste	0.34 (11%)
Natural Gas Consumption	0.29 (9%)
Agriculture	0.16 (5%)
Water	0.13 (4%)
Off-Road Transportation	0.04 (1%)
Wastewater	0.02 (1%)
Propane	0.01 (<0.5%)
TOTAL	**3.21**

Source: San Diego County 2018.
[1] Percentages may not total 100 due to rounding.
MMT = million metric tons; CO2e = carbon dioxide equivalent

3.4 GHG METHODOLOGY

The project's GHG emissions were calculated using CalEEMod, as described in Section 2.3, above.

3.4.1 Construction GHG Emissions

Construction of the project would result in emissions of GHGs from the use of diesel-powered equipment, from worker vehicles traveling to and from the project site, and from trucks hauling material to and from the project site. The anticipated construction equipment and vehicle trips required for project construction are described in Section 2.3, above.

3.4.2 Operational GHG Emissions

3.4.2.1 Area Sources

This CalEEMod module estimates the GHG emissions that would occur from the use of hearths (e.g., wood or gas fireplaces and wood stoves), and landscaping equipment. This module also estimates emissions due to use of consumer products and architectural coatings that have volatile organic compounds (VOCs); however, these sources do not emit GHGs. The project would not include wood burning or natural gas fireplaces or woodstoves.

The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. CalEEMod estimates the number and type of equipment needed based on the number of summer days given the project's location as entered in the project characteristics module. The model defaults for landscaping equipment were assumed.

3.4.2.2 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle trip generation and trip length, as described in Section 2.3, above.

3.4.2.3 Energy Sources

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are generated during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect and are calculated in CalEEMod as associated with a building's operation.

CalEEMod default energy values are based on the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies, which identify energy use by building type and climate zone. Each land use type input to the land use module is mapped in the energy module to the appropriate CEUS and RASS building type.

To be consistent with the City's CAP, a commercial or residential project would have to provide 50 percent of the estimated electric consumption from on-site renewable sources (e.g., solar panels), or purchase 75 percent of electricity from renewable, emissions-free electricity. A Climate Action Plan Energy Report was completed for the resort and commercial components of the project which concluded that the total project resort/commercial electric consumption would be 12,219,300 kilo-Watt-hours (kWh), and to be consistent with the City's CAP, a solar power system totaling 3,700 kilo-Watts (kW) would be required (Syska Hennessey 2021). The project applicant has committed to installing sufficient solar power to be consistent with the City CAP. Therefore, the modeling includes 3,700 kW of on-site solar electricity generation applied in the mitigation section of the model.

Because the timing of construction and configuration of the residential portion of the project had not been determined at the time of this analysis, it is not possible to estimate the solar power installation required for the residential component in order to be consistent with City's CAP. In addition, according to the project submittal, the residential buildings would be a mix of 2, 3, and 4-story multi-family residential building. The 2019 title 24 requires most new residential buildings with 3 or fewer stories to install on-site solar power generation. This requirement may exceed the 50 percent of estimated consumption required by the City's CAP. To be conservative in estimating the highest project GHG emissions, the modeling in this analysis does not include any solar power for the residential components. The residential energy use in the modeling uses the CalEEMod defaults for a low-rise condominium.

3.4.2.4 Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. A solid waste analysis was completed for the project which concluded that the resort/commercial component would generate 947 pounds pers day of solid waste and the residential component would generate 3,852 pounds per day (Lerch Bates 2021)

3.4.2.5 Water and Wastewater Sources

The amount of water used, and wastewater generated, by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

A water analysis was completed for the project which concluded that the resort/commercial component of the project would require 80,055 gallons per day and the residential component would require 140,000 gallons per day (Dexter Wilson 2020a). A sewer analysis was completed for the project which concluded that the resort/commercial component of the project would generate 55,300 gallons per day of wastewater and the residential component would generate 98,000 gallons per day of wastewater (Dexter Wilson 2020b). In the modeling, indoor water use was assumed to be equal to the wastewater generation and outdoor water use would be equal to the difference between the total water demand and the wastewater generation.

3.5 GHG SIGNIFICANCE CRITERIA

Given the relatively small levels of emissions generated by a typical project in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, considering the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the CEQA Guidelines, a project would have a significant environmental impact if it would:

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

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The determination of significance is governed by CEQA Guidelines 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." CEQA Guidelines 15064.4(a) states, "[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative model]" (emphasis added). In turn, CEQA Guidelines 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project."

According to the City Planning Division Policy Directive (City 2019b):

> *The City's CAP established communitywide GHG emissions reduction targets based on an efficiency/service population methodology. Consistent with state emissions reduction goals, the CAP commits the City to reducing annual communitywide GHG emissions to no more than 4.0 MT CO_2e per service population by 2020 and no more than 2.7 MT CO_2e per service population by 2030. "Service Population" is defined as the sum total of the City's residents and*

workforce. These emissions reduction targets translate to the following thresholds of significance for new development:

- *Projects that will be implemented prior to 2020 must show that GHG emissions related to both construction and operation will not exceed 4.0 MT CO_2e per service population per year.*
- *Projects that will not be implemented prior to 2020 must show that GHG emissions related to both construction and operation will not exceed 3.5 MT CO_2e per service population per year.*

In the context of development projects, "service population" is generally defined as the sum total of those who live, work, and/or visit the project site in the course of a year. Fundamentally, "service population" includes those who travel to and from the project site and utilize on-site resources that result in GHG emissions. For certain project with unique attributes, it may be necessary to develop a project-specific definition of "service population."

The first full year of operation for the project is anticipated to be 2024. Therefore, this analysis compares the project's GHG emission to a threshold of 3.5 MT CO_2e per service population per year. To account for all the project's GHG emissions, the construction period emissions were amortized (i.e., averaged) over the anticipated 30-year lifespan of the project buildings and added to the project's operational emissions.

3.6 GHG IMPACT ANALYSIS

3.6.1 Issue 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG emissions were analyzed as a cumulative impact in the Pavilion at Oceanside EIR which concluded that without an established threshold of measurement [in 2008], the significance of this impact cannot be precisely determined and, for purposes of the EIR, GHG emissions were assumed to be cumulatively significant and unmitigable.

3.6.1.1 Construction GHG Emissions

The project's temporary construction emissions were estimated using CalEEMod as described in Section 2.3. The results of the modeling of the project's GHG emissions shows that construction of the project would generate a total of 7,289.7 MT of CO_2e. Amortized (averaged) over the anticipated 30-year lifespan of the project, project construction GHG emissions would be 243.0 MT of CO_2e per year. The CalEEMod output is included as Appendix A to this report.

3.6.1.2 Operational GHG Emissions

As described in Section 3.5, above, service population in the context of a development project is defined as the sum total of those who live, work, and/or visit the project site in the course of a year. The Vehicle Miles Traveled Study estimates future project residents to be 2,036 (LLG 2021b). An estimate of the employees and customers visiting the site each day can be calculated from the project trip generation. According to the Local Transportation Study, the resort/commercial portion of the project site would generate 13,340 weekday trips and 8,728 weekend trips, or average daily trips of 12,022. Delivery vehicles would not be considered users of the site and can be discounted form the service population.

According to the CalEEMod user's guide, for hotel land and commercial retail land uses, delivery trips represent 19 percent of the total. Therefore, the trips attributable to employees and visitors/customers would be 9,378 (19 percent below the average daily trips). Assuming 2 trips per employee or visitor/customer, the average daily employees and visitors/customers would be 4,689. The service population would be 2,036 residents plus 4,689 employees and visitors/customers for a total of 6,725.

The GHG emissions associated with long-term operation of the project were estimated using CalEEMod as described in Section 2.3 and Section 3.4. The results of the modeling of the project's operational GHG emissions are shown in Table 13, *Operational GHG Emissions*. The data are presented as the maximum anticipated operational GHG emissions for the first full year of operation (2024) and compared to the City threshold. As shown in Table 13, the project's GHG emissions would be approximately 3.0 MT CO_2e per service population per year, which would be below the 2025 City threshold of 3.5 MT CO_2e per service population per year.

Table 13
OPERATIONAL GHG EMISSIONS

Source	Emissions (MT CO_2e/year)
Area	8.7
Energy	3,745.5
Vehicular (Mobile)	13,381.4
Solid Waste	2,413.4
Water and Wastewater	403.9
Amortized Construction Emissions	*243.0*
Total Annual Emissions[1]	**20,195.9**
Emissions per service population (6,725) per year	**3.0**
2025 Efficiency Threshold (MT CO_2e/service population/year)	*3.5*
Exceed Threshold?	***No***

Source: CalEEMod, output data is provided in Appendix A.
[1] Totals may not sum due to rounding.
MT = metric ton; CO_2e = carbon dioxide equivalent

3.6.1.3 Significance of Impact

The project would not generate GHG emissions that may have a significant impact on the environment, and the impact would be less than significant.

3.6.1.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

3.6.2 Issue 2: Conflict with an applicable GHG reduction plan, policy, or regulation

The project, by achieving the City's threshold, would not conflict with the goals of the City's CAP and may be seen to achieving its fair share of the state's reduction target. Consistent with the City CAP checklist, the project applicant has committed to install sufficient on-site sonar electricity panels to generate 50 percent of the project estimated electricity consumption and meet the 2019 Title 24

requirements for residential solar power. The project would also be required to install electric vehicle charging stations and implement a Transportation Demand Management plan, in accordance with Section 3047 of the City's Zoning Ordinance. Therefore, the project would be consistent City's CAP which was created to enable the City of meet the statewide GHG reduction mandates consistent with the CARB's Climate Change Scoping Plan.

3.6.2.1 Significance of Impact

The project would not conflict with applicable plans, policies, and regulations related to GHG emission reductions, and the impact would be less than significant.

3.6.2.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

4.0 LIST OF PREPARERS

Martin Rolph	Air Quality Specialist
Victor Ortiz	Senior Air Quality Specialist
Joanne M. Dramko, AICP	Principal Air Quality Specialist, QAQC

5.0 REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2020. Health Effects. Available at: http://www.capcoa.org/health-effects/. Accessed October 18, 2020.

2017. User's Guide for CalEEMod Version 2016.3.2. Available at: http://www.caCAPCOAleemod.com/.

California Air Resources Board (CARB). 2020a. Overview: Diesel Exhaust and Health. Available at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed October 18. 2020.

2020b. iADAM Air Quality Data Statistics: Top 4 Summary. Available at: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed May 13, 2020.

2020c. EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26. Available at: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf.

2020d. Clean Car Standards – Pavley, Assembly Bill 1493. Accessed December. Available at: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed October 19, 2020.

2019. California Greenhouse Gas Inventory for 2000-2017 – By Sector and Activity. August 12. Available at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_sector_sum_2000-17.pdf.

2017. California's 2017 Climate Change Scoping Plan. Available at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

2016. Ambient Air Quality Standards. May 4. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-03/aaqs2_0.pdf.

2014. First Update to the Climate Change Scoping Plan: Building on the Framework. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

2009. State Implementation Plan Background. April 13. Available at: https://ww3.arb.ca.gov/planning/sip/background.htm.

2008. Climate Change Scoping Plan – A Framework for Change. December. Available at: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/document/adopted_scoping_plan.pdf.

2007. California Greenhouse Gas Inventory – By Sector and Activity. November 19. Available at: https://ww3.arb.ca.gov/cc/inventory/archive/tables/ghg_inventory_sector_sum_90-04_ar4.pdf.

2005. Air Quality and Land Use Handbook: A Community Health Perspective. April. Available at: https://ww3.arb.ca.gov/ch/handbook.pdf.

California Building Standards Commission (CBSC). 2019. CALGreen (CCR Title 24, Part 11). Available at: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen.

California Energy Commission (CEC). 2019a. CCR Title 24 Part 6, 2019 Residential Compliance Manual, Chapter 7 – Photovoltaic, Community Shared Solar, Battery Storage, and Solar Ready Buildings. Available at: https://www.energy.ca.gov/sites/default/files/2020-06/07-PV_BatteryStorage_and_SolarReady_ada.pdf.

Dexter Wilson Engineering, Inc. 2020a. Water System Analysis for the Ocean KAMP Project. December 21.

2020b. Sewer Study for the Ocean KAMP Project. December 22.

Intergovernmental Panel on Climate Change (IPCC). 2014. Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/report/ar5/wg3/.

2013. Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/report/ar5/wg1/.

2007. Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. February. Available at: https://www.ipcc.ch/report/ar4/wg1/.

Investigative Science and Engineering, Inc. 2008. Air Quality Conformance Assessment, Oceanside Pavilion Commercial Center. February 29.

Iowa Environmental Mesonet (IEM). 2021. Oceanside Municipal Windrose Plot. Available at: https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=OKB&network=CA_ASOS.

Lerch Bates, Inc., 2021 Ocean KAMP Solid Waste Analysis.

Linscott, Law & Greenspan, Engineers [LLG]. 2021a. Local Transportation Study Ocean KAMP Project. April 22.

2020b. Vehicle Miles Traveled Study Ocean KAMP Project. March 17.

National Aeronautics and Space Administration, Goddard Institute for Space Studies (NASA). 2021. NASA News & Features Releases. 2020 Tied for Warmest Year on Record, NASA Analysis Show. January 14. https://www.giss.nasa.gov/research/news/20210114/.

National Oceanic and Atmospheric Administration (NOAA). 2021. Trends in Atmospheric Carbon Dioxide. Available at: https://www.esrl.noaa.gov/gmd/ccgg/trends. Accessed March 2021.

Oceanside, City of. 2019a. Oceanside Climate Action Plan. Available at: https://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?blobid=48919.

2019b. Planning Division Policy Directive 2018-01 (Revised) (CEQA GHG Impact Analysis: Thresholds of Significance). November 6.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

San Diego Air Pollution Control District (SDAPCD). 2021. Rule 67.0.1 Architectural Coatings. Revision adopted February 10. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R67-0-1-2021.pdf.

2020a. Attainment Status. Available at: http://www.sandiegocounty.gov/content/sdc/apcd/en/air-quality-planning/attainment-status.html. Accessed October 18, 2020.

2020b. Final Ozone Attainment Plan for San Diego County. Updated October 20. Available at: https://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning.html. Accessed October 22, 2022.

2019. RULE 20.2 New Source Review Non-Major Stationary Sources. Revised June 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20.2.pdf.

2009. Rule 55 Fugitive Dust Control. June 24. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.

1997. Rule 50 Visible Emissions. August 13. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50.pdf.

1976. Rule 51 Nuisance. November 8. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50-1-51.pdf.

San Diego Association of Governments (SANDAG). 2015. San Diego Forward – The Regional Plan. October. Available at: http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

2002. (Not So) Brief Guide of Vehicular Traffic Generation Rates. April. Available at: https://www.sandag.org/uploads/publicationid/publicationid_1140_5044.pdf.

San Diego, County of. 2018. Climate Action Plan, Chapter 2 Greenhouse Gas emissions Inventory, Projections, and Reduction Targets. Available at: https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/CAPfilespublicreview/Chapter%202%20Greenhouse%20Gas%20Emissions%20Inventory%2C%20Projections%20and%20Reduction%20Target.pdf.

South Coast Air Quality Management District (SCAQMD). 1993. CEQA Air Quality Handbook.

Syska Hennessy. 2021. Climate Action Plan, rev1, Energy Report. May 3.

U.S. Environmental Protection Agency (USEPA). 2020. Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act. Last updated September 10. Available at: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean. Accessed October 19, 2020.

U.S. Environmental Protection Agency and U.S. Department of Transportation, National Highway Traffic Safety Administration (USEPA and NHTSA). 2012. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. October 15. Available at: https://www.nhtsa.gov/corporate-average-fuel-economy/documents-associated-mys-2012-2016-rulemaking.

Western Regional Climate Center (WRCC). 2016. Western U.S. Climate Summaries, California, Oceanside Marina (046377). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6377. Accessed May 2021.

World Resources Institute (WRI). 2020. CAIT Climate Data Explorer. Available: http://cait.wri.org/historical. Accessed April 21, 2020.

This page intentionally left blank

Appendix A

CalEEMod Output

Ocean KAMP Project

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	19.75	Acre	19.75	860,310.00	0
Parking Lot	9.40	Acre	9.40	409,464.00	0
City Park	9.94	Acre	9.94	432,986.40	0
Hotel	300.00	Room	4.32	435,600.00	0
Recreational Swimming Pool	203.50	1000sqft	4.67	203,500.00	0
Condo/Townhouse	700.00	Dwelling Unit	27.40	700,000.00	2036
Strip Mall	126.40	1000sqft	1.52	126,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per site plan and project description.
Other asphalt surfaces = internal streets (resort and residential areas).

Construction Phase - Demolition and site prepartion completed under previous approval.
Underground utilities concurrent with the last half of grading.

Architechtural coating concurrent with the last 6 months of building construction.
Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Off-highway trucks = water trucks.

Off-road Equipment -

Off-road Equipment - Equipment for trenching/installation of underground utilites.

Trips and VMT - 10 vendor trips per day during underground utility installation for aggregate, pipe, and supplies.
5,900 haul trips during paving for aggregate and asphalt.

On-road Fugitive Dust - 0.25 miles of on-site site unpaved raod travel added to grading haul trips.

Grading - 300,000 CY of fill imported during grading.

Architectural Coating - 50 g/L VOC limit per SDAPCD rule 67.0.1, effective 1/01/2022.

Vehicle Trips - Trip generation per Ocean KAMP Local transportation Study (LLG April 2021).
Residential trip distances per Ocean VMT Analysis (LLG April 2021).
Resort trip distances from SANDAG (not so) Brief Guide of Trip Gen.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Woodstoves - No hearths per project applicant.

Area Coating - 50 g/L VOC limit per SDAPCD rule 67.0.1, effective 1/01/2022.

Energy Use - Enery use for resort/commercial/swimming pool from Climate Action Plan Energy Report (Siska Hennessy May 2021), combined energy use of all buildings and pools applied to the hotel.

Water And Wastewater - Water/waste water per Ocean KAMP water and sewer analysis reports (Dexter Wilson December 2020).

Solid Waste - Solid waste generation per Ocean KAMP Waste Generation analysis (Lerch Bates December 2019).
Combined waste generation for hotel, commercial and pool applied to hotel land use.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Solar requirement (resort only) to meet City CAP per project energy Report (Syska Hennessy 2021).

Ocean KAMP Project - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	155.00	132.00
tblConstructionPhase	NumDays	110.00	41.00
tblConstructionPhase	NumDays	1,550.00	393.00
tblConstructionPhase	NumDays	110.00	132.00
tblEnergyUse	LightingElect	4.50	0.00
tblEnergyUse	LightingElect	6.22	0.00
tblEnergyUse	NT24E	3.67	0.00
tblEnergyUse	NT24E	3.16	0.00
tblEnergyUse	NT24NG	11.10	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	T24E	4.78	28.06
tblEnergyUse	T24E	3.18	0.00
tblEnergyUse	T24NG	47.27	0.00
tblEnergyUse	T24NG	1.14	0.00
tblFireplaces	NumberGas	385.00	0.00

tblFireplaces	NumberNoFireplace	70.00	100.00
tblFireplaces	NumberWood	245.00	0.00
tblGrading	MaterialExported	0.00	300,000.00
tblLandUse	LotAcreage	10.00	4.32
tblLandUse	LotAcreage	43.75	27.40
tblLandUse	LotAcreage	2.90	1.52
tblLandUse	Population	2,002.00	2,036.00
tblOnRoadDust	HaulingPercentPave	100.00	98.70
tblSolidWaste	SolidWasteGenerationRate	0.85	0.00
tblSolidWaste	SolidWasteGenerationRate	322.00	3,852.00
tblSolidWaste	SolidWasteGenerationRate	164.25	947.00
tblSolidWaste	SolidWasteGenerationRate	1,159.95	0.00
tblSolidWaste	SolidWasteGenerationRate	132.72	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,900.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblVehicleEF	LDA	0.55	0.55
tblVehicleEF	LDA	1.30	1.30
tblVehicleEF	LDA	237.45	244.93
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.07	0.07

tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.61	0.62
tblVehicleEF	LDA	1.08	1.08
tblVehicleEF	LDA	250.91	258.82
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03

tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.53	0.54
tblVehicleEF	LDA	1.39	1.40
tblVehicleEF	LDA	235.01	242.41
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.11

tblVehicleEF	LDT1	1.06	1.06
tblVehicleEF	LDT1	2.52	2.53
tblVehicleEF	LDT1	307.74	317.44
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.26	0.26
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.26	0.26
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	1.17	1.18
tblVehicleEF	LDT1	2.08	2.08
tblVehicleEF	LDT1	324.48	334.70
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.10	0.10

tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	1.04	1.04
tblVehicleEF	LDT1	2.71	2.72
tblVehicleEF	LDT1	304.71	314.31
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003

tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.30	0.30
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.30	0.30
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT2	0.61	0.62
tblVehicleEF	LDT2	1.21	1.22
tblVehicleEF	LDT2	338.89	349.56
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06

tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.69	0.69
tblVehicleEF	LDT2	1.00	1.01
tblVehicleEF	LDT2	357.69	368.96
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.60	0.60
tblVehicleEF	LDT2	1.30	1.30
tblVehicleEF	LDT2	335.48	346.05
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	MDV	0.86	0.86
tblVehicleEF	MDV	2.09	2.10
tblVehicleEF	MDV	455.04	469.37

tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003
tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.96	0.96
tblVehicleEF	MDV	1.73	1.74
tblVehicleEF	MDV	479.64	494.75
tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003

tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.84	0.84
tblVehicleEF	MDV	2.24	2.25
tblVehicleEF	MDV	450.58	464.78
tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003
tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06

tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.18	0.18
tblVehicleTrips	CC_TL	7.30	7.60
tblVehicleTrips	CC_TL	7.30	7.60
tblVehicleTrips	CC_TL	7.30	5.20
tblVehicleTrips	CC_TTP	61.60	100.00
tblVehicleTrips	CC_TTP	48.00	100.00
tblVehicleTrips	CC_TTP	64.40	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	19.40	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HS_TTP	18.80	0.00

tblVehicleTrips	HW_TL	10.80	4.40
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	52.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	9.10	2.26
tblVehicleTrips	ST_TR	42.04	45.97
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	8.14
tblVehicleTrips	SU_TR	5.95	8.19
tblVehicleTrips	SU_TR	13.60	2.26
tblVehicleTrips	SU_TR	20.43	45.97
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	8.17	10.00
tblVehicleTrips	WD_TR	33.82	1.77
tblVehicleTrips	WD_TR	44.32	79.75
tblWater	IndoorWaterUseRate	45,607,817.94	35,770,000.00
tblWater	IndoorWaterUseRate	7,610,031.00	10,950,000.00
tblWater	IndoorWaterUseRate	12,035,629.81	5,475,000.00

tblWater	IndoorWaterUseRate	9,362,766.72	3,759,500.00
tblWater	OutdoorWaterUseRate	11,843,324.62	0.00
tblWater	OutdoorWaterUseRate	28,752,754.79	15,330,000.00
tblWater	OutdoorWaterUseRate	845,559.00	2,190,000.00
tblWater	OutdoorWaterUseRate	7,376,676.34	3,650,000.00
tblWater	OutdoorWaterUseRate	5,738,469.92	3,195,575.00
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	8.4184	138.4290	67.3679	0.3225	122.9667	2.9714	125.9381	15.9363	2.7421	18.6784	0.0000	34,027.6120	34,027.6120	5.4127	0.0000	34,162.9303
2022	8.8063	65.0690	64.8182	0.2648	15.7948	0.9857	16.7805	4.2629	0.9271	5.1900	0.0000	27,273.2599	27,273.2599	1.9445	0.0000	27,321.8722
2023	63.5878	55.6649	69.2200	0.2818	18.3085	0.9155	19.2240	4.9296	0.8643	5.7939	0.0000	28,956.5651	28,956.5651	1.8950	0.0000	29,003.9404
Maximum	**63.5878**	**138.4290**	**69.2200**	**0.3225**	**122.9667**	**2.9714**	**125.9381**	**15.9363**	**2.7421**	**18.6784**	**0.0000**	**34,027.6120**	**34,027.6120**	**5.4127**	**0.0000**	**34,162.9303**

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					
2021	8.4184	138.4290	67.3679	0.3225	44.5485	2.9714	47.5199	6.5844	2.7421	9.3265	0.0000	34,027.6120	34,027.6120	5.4127	0.0000	34,162.9303
2022	8.8063	65.0690	64.8182	0.2648	15.7948	0.9857	16.7805	4.2629	0.9271	5.1900	0.0000	27,273.2599	27,273.2599	1.9445	0.0000	27,321.8722
2023	63.5878	55.6649	69.2200	0.2818	18.3085	0.9155	19.2240	4.9296	0.8643	5.7939	0.0000	28,956.5651	28,956.5651	1.8950	0.0000	29,003.9404
Maximum	**63.5878**	**138.4290**	**69.2200**	**0.3225**	**44.5485**	**2.9714**	**47.5199**	**6.5844**	**2.7421**	**9.3265**	**0.0000**	**34,027.6120**	**34,027.6120**	**5.4127**	**0.0000**	**34,162.9303**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.93**	**0.00**	**48.42**	**37.22**	**0.00**	**31.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.8966	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202	0.0000	104.1330	104.1330	0.1002	0.0000	106.6369
Energy	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074
Mobile	23.4257	89.1098	247.0728	0.8351	80.0900	0.6826	80.7726	21.4023	0.6350	22.0373		87,116.8181	87,116.8181	4.5441		87,230.4206
Total	**55.6197**	**92.3176**	**305.9493**	**0.8544**	**80.0900**	**1.2083**	**81.2983**	**21.4023**	**1.1607**	**22.5630**	**0.0000**	**90,466.0744**	**90,466.0744**	**4.7065**	**0.0595**	**90,601.4649**

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	31.8966	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202	0.0000	104.1330	104.1330	0.1002	0.0000	106.6369
Energy	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074
Mobile	23.4257	89.1098	247.0728	0.8351	80.0900	0.6826	80.7726	21.4023	0.6350	22.0373		87,116.8181	87,116.8181	4.5441		87,230.4206
Total	**55.6197**	**92.3176**	**305.9493**	**0.8544**	**80.0900**	**1.2083**	**81.2983**	**21.4023**	**1.1607**	**22.5630**	**0.0000**	**90,466.0744**	**90,466.0744**	**4.7065**	**0.0595**	**90,601.4649**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	7/1/2021	12/31/2021	5	132	
2	Underground Utilities	Trenching	10/1/2021	12/31/2021	5	66	
3	Paving	Paving	1/1/2022	2/28/2022	5	41	
4	Building Construction	Building Construction	3/1/2022	8/31/2023	5	393	
5	Architectural Coating	Architectural Coating	3/1/2023	8/31/2023	5	132	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 330

Acres of Paving: 29.15

Residential Indoor: 1,417,500; Residential Outdoor: 472,500; Non-Residential Indoor: 843,000; Non-Residential Outdoor: 281,000; Striped Parking Area: 76,186 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilities	Excavators	1	8.00	158	0.38
Underground Utilities	Skid Steer Loaders	1	8.00	65	0.37
Underground Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
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
Grading	10	25.00	0.00	37,500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	4	10.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	5,900.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,528.00	479.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	306.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9927	0.0000	8.9927	3.6449	0.0000	3.6449			0.0000			0.0000
Off-Road	5.4030	56.9266	38.0872	0.0884		2.3715	2.3715		2.1817	2.1817		8,564.0894	8,564.0894	2.7698		8,633.3344
Total	**5.4030**	**56.9266**	**38.0872**	**0.0884**	**8.9927**	**2.3715**	**11.3642**	**3.6449**	**2.1817**	**5.8266**		**8,564.0894**	**8,564.0894**	**2.7698**		**8,633.3344**

3.2 Grading - 2021

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	2.1671	73.4500	18.9369	0.2153	113.6188	0.2269	113.8457	12.1957	0.2171	12.4128		23,609.9212	23,609.9212	2.1920		23,664.7206
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0981	0.0631	0.6233	1.9200e-003	0.2054	1.4200e-003	0.2068	0.0545	1.3100e-003	0.0558		191.1369	191.1369	5.4900e-003		191.2742
Total	**2.2651**	**73.5131**	**19.5602**	**0.2172**	**113.8242**	**0.2283**	**114.0525**	**12.2502**	**0.2184**	**12.4686**		**23,801.0581**	**23,801.0581**	**2.1975**		**23,855.9948**

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					4.0467	0.0000	4.0467	1.6402	0.0000	1.6402			0.0000			0.0000
Off-Road	5.4030	56.9266	38.0872	0.0884		2.3715	2.3715		2.1817	2.1817	0.0000	8,564.0894	8,564.0894	2.7698		8,633.3344
Total	**5.4030**	**56.9266**	**38.0872**	**0.0884**	**4.0467**	**2.3715**	**6.4182**	**1.6402**	**2.1817**	**3.8219**	**0.0000**	**8,564.0894**	**8,564.0894**	**2.7698**		**8,633.3344**

3.2 Grading - 2021

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	2.1671	73.4500	18.9369	0.2153	40.1465	0.2269	40.3735	4.8485	0.2171	5.0656		23,609.9212	23,609.9212	2.1920		23,664.7206
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0981	0.0631	0.6233	1.9200e-003	0.2054	1.4200e-003	0.2068	0.0545	1.3100e-003	0.0558		191.1369	191.1369	5.4900e-003		191.2742
Total	**2.2651**	**73.5131**	**19.5602**	**0.2172**	**40.3519**	**0.2283**	**40.5802**	**4.9029**	**0.2184**	**5.1213**		**23,801.0581**	**23,801.0581**	**2.1975**		**23,855.9948**

3.3 Underground Utilities - 2021

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	0.6792	6.9486	9.1822	0.0135		0.3688	0.3688		0.3393	0.3393		1,302.1905	1,302.1905	0.4212		1,312.7194
Total	**0.6792**	**6.9486**	**9.1822**	**0.0135**		**0.3688**	**0.3688**		**0.3393**	**0.3393**		**1,302.1905**	**1,302.1905**	**0.4212**		**1,312.7194**

3.3 Underground Utilities - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	1.0156	0.2890	2.6400e-003	0.0677	2.2300e-003	0.0699	0.0195	2.1300e-003	0.0216		283.8193	283.8193	0.0221		284.3721
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0711**	**1.0408**	**0.5383**	**3.4100e-003**	**0.1499**	**2.8000e-003**	**0.1526**	**0.0413**	**2.6500e-003**	**0.0439**		**360.2741**	**360.2741**	**0.0243**		**360.8817**

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	0.6792	6.9486	9.1822	0.0135		0.3688	0.3688		0.3393	0.3393	0.0000	1,302.1905	1,302.1905	0.4212		1,312.7194
Total	**0.6792**	**6.9486**	**9.1822**	**0.0135**		**0.3688**	**0.3688**		**0.3393**	**0.3393**	**0.0000**	**1,302.1905**	**1,302.1905**	**0.4212**		**1,312.7194**

3.3 Underground Utilities - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	1.0156	0.2890	2.6400e-003	0.0677	2.2300e-003	0.0699	0.0195	2.1300e-003	0.0216		283.8193	283.8193	0.0221		284.3721
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0711**	**1.0408**	**0.5383**	**3.4100e-003**	**0.1499**	**2.8000e-003**	**0.1526**	**0.0413**	**2.6500e-003**	**0.0439**		**360.2741**	**360.2741**	**0.0243**		**360.8817**

3.4 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.8628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9656**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.4 Paving - 2022

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	1.0310	34.0081	9.5084	0.1073	2.5145	0.0975	2.6120	0.6891	0.0933	0.7824		11,801.1913	11,801.1913	1.0978		11,828.6374
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**1.0868**	**34.0426**	**9.8554**	**0.1084**	**2.6377**	**0.0983**	**2.7360**	**0.7218**	**0.0940**	**0.8158**		**11,911.6702**	**11,911.6702**	**1.1009**		**11,939.1916**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	1.8628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9656**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.4 Paving - 2022

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	1.0310	34.0081	9.5084	0.1073	2.5145	0.0975	2.6120	0.6891	0.0933	0.7824		11,801.1913	11,801.1913	1.0978		11,828.6374
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**1.0868**	**34.0426**	**9.8554**	**0.1084**	**2.6377**	**0.0983**	**2.7360**	**0.7218**	**0.0940**	**0.8158**		**11,911.6702**	**11,911.6702**	**1.1009**		**11,939.1916**

3.5 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.4203	45.9395	13.1046	0.1250	3.2426	0.0919	3.3345	0.9335	0.0878	1.0213		13,464.8154	13,464.8154	1.0253		13,490.4472
Worker	5.6798	3.5138	35.3502	0.1129	12.5522	0.0848	12.6370	3.3294	0.0781	3.4075		11,254.1110	11,254.1110	0.3073		11,261.7928
Total	**7.1000**	**49.4533**	**48.4548**	**0.2379**	**15.7948**	**0.1767**	**15.9715**	**4.2629**	**0.1660**	**4.4288**		**24,718.9263**	**24,718.9263**	**1.3325**		**24,752.2400**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.4203	45.9395	13.1046	0.1250	3.2426	0.0919	3.3345	0.9335	0.0878	1.0213		13,464.8154	13,464.8154	1.0253		13,490.4472
Worker	5.6798	3.5138	35.3502	0.1129	12.5522	0.0848	12.6370	3.3294	0.0781	3.4075		11,254.1110	11,254.1110	0.3073		11,261.7928
Total	**7.1000**	**49.4533**	**48.4548**	**0.2379**	**15.7948**	**0.1767**	**15.9715**	**4.2629**	**0.1660**	**4.4288**		**24,718.9263**	**24,718.9263**	**1.3325**		**24,752.2400**

3.5 Building Construction - 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					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 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	0.0000	0.0000	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	1.0964	36.1267	11.8370	0.1216	3.2426	0.0452	3.2878	0.9335	0.0432	0.9766		13,127.9207	13,127.9207	0.9332		13,151.2517
Worker	5.3931	3.2079	32.7661	0.1086	12.5522	0.0832	12.6353	3.3294	0.0766	3.4060		10,824.2940	10,824.2940	0.2809		10,831.3152
Total	**6.4895**	**39.3346**	**44.6031**	**0.2302**	**15.7948**	**0.1283**	**15.9231**	**4.2629**	**0.1197**	**4.3826**		**23,952.2147**	**23,952.2147**	**1.2141**		**23,982.5669**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 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	0.0000	0.0000	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	1.0964	36.1267	11.8370	0.1216	3.2426	0.0452	3.2878	0.9335	0.0432	0.9766		13,127.9207	13,127.9207	0.9332		13,151.2517
Worker	5.3931	3.2079	32.7661	0.1086	12.5522	0.0832	12.6353	3.3294	0.0766	3.4060		10,824.2940	10,824.2940	0.2809		10,831.3152
Total	**6.4895**	**39.3346**	**44.6031**	**0.2302**	**15.7948**	**0.1283**	**15.9231**	**4.2629**	**0.1197**	**4.3826**		**23,952.2147**	**23,952.2147**	**1.2141**		**23,982.5669**

3.6 Architectural Coating - 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					
Archit. Coating	54.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**54.4455**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0800	0.6424	6.5618	0.0217	2.5137	0.0167	2.5304	0.6668	0.0153	0.6821		2,167.6924	2,167.6924	0.0562		2,169.0985
Total	**1.0800**	**0.6424**	**6.5618**	**0.0217**	**2.5137**	**0.0167**	**2.5304**	**0.6668**	**0.0153**	**0.6821**		**2,167.6924**	**2,167.6924**	**0.0562**		**2,169.0985**

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	54.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**54.4455**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.6 Architectural Coating - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0800	0.6424	6.5618	0.0217	2.5137	0.0167	2.5304	0.6668	0.0153	0.6821		2,167.6924	2,167.6924	0.0562		2,169.0985
Total	**1.0800**	**0.6424**	**6.5618**	**0.0217**	**2.5137**	**0.0167**	**2.5304**	**0.6668**	**0.0153**	**0.6821**		**2,167.6924**	**2,167.6924**	**0.0562**		**2,169.0985**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	23.4257	89.1098	247.0728	0.8351	80.0900	0.6826	80.7726	21.4023	0.6350	22.0373		87,116.8181	87,116.8181	4.5441		87,230.4206
Unmitigated	23.4257	89.1098	247.0728	0.8351	80.0900	0.6826	80.7726	21.4023	0.6350	22.0373		87,116.8181	87,116.8181	4.5441		87,230.4206

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	5,600.00	5,698.00	5698.00	9,013,805	9,013,805
Hotel	3,000.00	2,457.00	2457.00	7,870,013	7,870,013
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	360.20	459.91	459.91	1,075,258	1,075,258
Strip Mall	10,080.40	5,810.61	5810.61	16,771,078	16,771,078
Total	19,040.60	14,425.52	14,425.52	34,730,153	34,730,153

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	4.40	7.30	7.50	100.00	0.00	0.00	100	0	0
Hotel	9.50	7.60	7.30	0.00	100.00	0.00	100	0	0
Other 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
Recreational Swimming Pool	9.50	7.60	7.30	0.00	100.00	0.00	100	0	0
Strip Mall	9.50	5.20	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Condo/Townhouse	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Hotel	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Other Asphalt Surfaces	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Parking Lot	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Recreational Swimming Pool	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Strip Mall	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

Ocean KAMP Project - San Diego County, Winter

	ROG	NOx	CO	SO2	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	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074
NaturalGas Unmitigated	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074

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					
City Park	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
Condo/Townhouse	27583.5	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074
Hotel	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 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
Recreational Swimming Pool	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
Strip Mall	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		**0.2975**	**2.5420**	**1.0817**	**0.0162**		**0.2055**	**0.2055**		**0.2055**	**0.2055**		**3,245.1233**	**3,245.1233**	**0.0622**	**0.0595**	**3,264.4074**

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					
City Park	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
Condo/Townhouse	27.5835	0.2975	2.5420	1.0817	0.0162		0.2055	0.2055		0.2055	0.2055		3,245.1233	3,245.1233	0.0622	0.0595	3,264.4074
Hotel	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 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
Recreational Swimming Pool	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
Strip Mall	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		**0.2975**	**2.5420**	**1.0817**	**0.0162**		**0.2055**	**0.2055**		**0.2055**	**0.2055**		**3,245.1233**	**3,245.1233**	**0.0622**	**0.0595**	**3,264.4074**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.8966	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202	0.0000	104.1330	104.1330	0.1002	0.0000	106.6369
Unmitigated	31.8966	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202	0.0000	104.1330	104.1330	0.1002	0.0000	106.6369

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	2.6757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.4789					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	1.7420	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202		104.1330	104.1330	0.1002		106.6369
Total	**31.8966**	**0.6657**	**57.7948**	**3.0500e-003**		**0.3202**	**0.3202**		**0.3202**	**0.3202**	**0.0000**	**104.1330**	**104.1330**	**0.1002**	**0.0000**	**106.6369**

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	2.6757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.4789					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	1.7420	0.6657	57.7948	3.0500e-003		0.3202	0.3202		0.3202	0.3202		104.1330	104.1330	0.1002		106.6369
Total	**31.8966**	**0.6657**	**57.7948**	**3.0500e-003**		**0.3202**	**0.3202**		**0.3202**	**0.3202**	**0.0000**	**104.1330**	**104.1330**	**0.1002**	**0.0000**	**106.6369**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Ocean KAMP Project

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	19.75	Acre	19.75	860,310.00	0
Parking Lot	9.40	Acre	9.40	409,464.00	0
City Park	9.94	Acre	9.94	432,986.40	0
Hotel	300.00	Room	4.32	435,600.00	0
Recreational Swimming Pool	203.50	1000sqft	4.67	203,500.00	0
Condo/Townhouse	700.00	Dwelling Unit	27.40	700,000.00	2036
Strip Mall	126.40	1000sqft	1.52	126,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per site plan and project description.
Other asphalt surfaces = internal streets (resort and residential areas).

Construction Phase - Demolition and site prepartion completed under previous approval.
Underground utilities concurrent with the last half of grading.

Architechtural coating concurrent with the last 6 months of building construction.
Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Off-highway trucks = water trucks.

Off-road Equipment -

Off-road Equipment - Equipment for trenching/installation of underground utilites.

Trips and VMT - 10 vendor trips per day during underground utility installation for aggregate, pipe, and supplies.
5,900 haul trips during paving for aggregate and asphalt.

On-road Fugitive Dust - 0.25 miles of on-site site unpaved raod travel added to grading haul trips.

Grading - 300,000 CY of fill imported during grading.

Architectural Coating - 50 g/L VOC limit per SDAPCD rule 67.0.1, effective 1/01/2022.

Vehicle Trips - Trip generation per Ocean KAMP Local transportation Study (LLG April 2021).
Residential trip distances per Ocean VMT Analysis (LLG April 2021).
Resort trip distances from SANDAG (not so) Brief Guide of Trip Gen.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Vehicle Emission Factors - Corrections for USEPA SAFE rule per CARB off model EMFAC2014 correction factors.

Woodstoves - No hearths per project applicant.

Area Coating - 50 g/L VOC limit per SDAPCD rule 67.0.1, effective 1/01/2022.

Energy Use - Enery use for resort/commercial/swimming pool from Climate Action Plan Energy Report (Siska Hennessy May 2021), combined energy use of all buildings and pools applied to the hotel.

Water And Wastewater - Water/waste water per Ocean KAMP water and sewer analysis reports (Dexter Wilson December 2020).

Solid Waste - Solid waste generation per Ocean KAMP Waste Generation analysis (Lerch Bates December 2019).
Combined waste generation for hotel, commercial and pool applied to hotel land use.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Solar requirement (resort only) to meet City CAP per project energy Report (Syska Hennessy 2021).

Ocean KAMP Project - San Diego County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	155.00	132.00
tblConstructionPhase	NumDays	110.00	41.00
tblConstructionPhase	NumDays	1,550.00	393.00
tblConstructionPhase	NumDays	110.00	132.00
tblEnergyUse	LightingElect	4.50	0.00
tblEnergyUse	LightingElect	6.22	0.00
tblEnergyUse	NT24E	3.67	0.00
tblEnergyUse	NT24E	3.16	0.00
tblEnergyUse	NT24NG	11.10	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	T24E	4.78	28.06
tblEnergyUse	T24E	3.18	0.00
tblEnergyUse	T24NG	47.27	0.00
tblEnergyUse	T24NG	1.14	0.00
tblFireplaces	NumberGas	385.00	0.00

tblFireplaces	NumberNoFireplace	70.00	100.00
tblFireplaces	NumberWood	245.00	0.00
tblGrading	MaterialExported	0.00	300,000.00
tblLandUse	LotAcreage	10.00	4.32
tblLandUse	LotAcreage	43.75	27.40
tblLandUse	LotAcreage	2.90	1.52
tblLandUse	Population	2,002.00	2,036.00
tblOnRoadDust	HaulingPercentPave	100.00	98.70
tblSolidWaste	SolidWasteGenerationRate	0.85	0.00
tblSolidWaste	SolidWasteGenerationRate	322.00	3,852.00
tblSolidWaste	SolidWasteGenerationRate	164.25	947.00
tblSolidWaste	SolidWasteGenerationRate	1,159.95	0.00
tblSolidWaste	SolidWasteGenerationRate	132.72	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,900.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblVehicleEF	LDA	0.55	0.55
tblVehicleEF	LDA	1.30	1.30
tblVehicleEF	LDA	237.45	244.93
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.07	0.07

tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.61	0.62
tblVehicleEF	LDA	1.08	1.08
tblVehicleEF	LDA	250.91	258.82
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03

tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.53	0.54
tblVehicleEF	LDA	1.39	1.40
tblVehicleEF	LDA	235.01	242.41
tblVehicleEF	LDA	52.02	53.66
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8020e-003	1.8290e-003
tblVehicleEF	LDA	2.2590e-003	2.2930e-003
tblVehicleEF	LDA	1.6600e-003	1.6850e-003
tblVehicleEF	LDA	2.0770e-003	2.1080e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.11

tblVehicleEF	LDT1	1.06	1.06
tblVehicleEF	LDT1	2.52	2.53
tblVehicleEF	LDT1	307.74	317.44
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.26	0.26
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.26	0.26
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	1.17	1.18
tblVehicleEF	LDT1	2.08	2.08
tblVehicleEF	LDT1	324.48	334.70
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.10	0.10

tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	1.04	1.04
tblVehicleEF	LDT1	2.71	2.72
tblVehicleEF	LDT1	304.71	314.31
tblVehicleEF	LDT1	67.54	69.67
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.5360e-003	2.5740e-003
tblVehicleEF	LDT1	3.1190e-003	3.1660e-003
tblVehicleEF	LDT1	2.3360e-003	2.3710e-003
tblVehicleEF	LDT1	2.8680e-003	2.9110e-003

tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.30	0.30
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.30	0.30
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT2	0.61	0.62
tblVehicleEF	LDT2	1.21	1.22
tblVehicleEF	LDT2	338.89	349.56
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06

tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.69	0.69
tblVehicleEF	LDT2	1.00	1.01
tblVehicleEF	LDT2	357.69	368.96
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.60	0.60
tblVehicleEF	LDT2	1.30	1.30
tblVehicleEF	LDT2	335.48	346.05
tblVehicleEF	LDT2	74.06	76.40
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8380e-003	1.8660e-003
tblVehicleEF	LDT2	2.3240e-003	2.3590e-003
tblVehicleEF	LDT2	1.6910e-003	1.7160e-003
tblVehicleEF	LDT2	2.1370e-003	2.1690e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	MDV	0.86	0.86
tblVehicleEF	MDV	2.09	2.10
tblVehicleEF	MDV	455.04	469.37

tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003
tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.96	0.96
tblVehicleEF	MDV	1.73	1.74
tblVehicleEF	MDV	479.64	494.75
tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003

tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.84	0.84
tblVehicleEF	MDV	2.24	2.25
tblVehicleEF	MDV	450.58	464.78
tblVehicleEF	MDV	98.60	101.70
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.8710e-003	1.8990e-003
tblVehicleEF	MDV	2.3210e-003	2.3560e-003
tblVehicleEF	MDV	1.7240e-003	1.7500e-003
tblVehicleEF	MDV	2.1340e-003	2.1660e-003
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06

tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.18	0.18
tblVehicleTrips	CC_TL	7.30	7.60
tblVehicleTrips	CC_TL	7.30	7.60
tblVehicleTrips	CC_TL	7.30	5.20
tblVehicleTrips	CC_TTP	61.60	100.00
tblVehicleTrips	CC_TTP	48.00	100.00
tblVehicleTrips	CC_TTP	64.40	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	19.40	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HS_TTP	18.80	0.00

tblVehicleTrips	HW_TL	10.80	4.40
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	52.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	9.10	2.26
tblVehicleTrips	ST_TR	42.04	45.97
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	8.14
tblVehicleTrips	SU_TR	5.95	8.19
tblVehicleTrips	SU_TR	13.60	2.26
tblVehicleTrips	SU_TR	20.43	45.97
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	8.17	10.00
tblVehicleTrips	WD_TR	33.82	1.77
tblVehicleTrips	WD_TR	44.32	79.75
tblWater	IndoorWaterUseRate	45,607,817.94	35,770,000.00
tblWater	IndoorWaterUseRate	7,610,031.00	10,950,000.00
tblWater	IndoorWaterUseRate	12,035,629.81	5,475,000.00

tblWater	IndoorWaterUseRate	9,362,766.72	3,759,500.00
tblWater	OutdoorWaterUseRate	11,843,324.62	0.00
tblWater	OutdoorWaterUseRate	28,752,754.79	15,330,000.00
tblWater	OutdoorWaterUseRate	845,559.00	2,190,000.00
tblWater	OutdoorWaterUseRate	7,376,676.34	3,650,000.00
tblWater	OutdoorWaterUseRate	5,738,469.92	3,195,575.00
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5277	8.9221	4.0832	0.0209	7.3175	0.1837	7.5012	0.9702	0.1695	1.1398	0.0000	2,002.2893	2,002.2893	0.3084	0.0000	2,009.9985
2022	0.9707	8.1115	7.5281	0.0321	1.7428	0.1213	1.8641	0.4716	0.1139	0.5855	0.0000	3,006.0022	3,006.0022	0.2236	0.0000	3,011.5909
2023	4.3002	4.8307	5.8114	0.0243	1.5046	0.0777	1.5823	0.4062	0.0733	0.4794	0.0000	2,264.4628	2,264.4628	0.1463	0.0000	2,268.1195
Maximum	**4.3002**	**8.9221**	**7.5281**	**0.0321**	**7.3175**	**0.1837**	**7.5012**	**0.9702**	**0.1695**	**1.1398**	**0.0000**	**3,006.0022**	**3,006.0022**	**0.3084**	**0.0000**	**3,011.5909**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5277	8.9221	4.0832	0.0209	2.6733	0.1837	2.8570	0.4061	0.1695	0.5757	0.0000	2,002.2887	2,002.2887	0.3084	0.0000	2,009.9978
2022	0.9707	8.1115	7.5281	0.0321	1.7428	0.1213	1.8641	0.4716	0.1139	0.5855	0.0000	3,006.0019	3,006.0019	0.2236	0.0000	3,011.5905
2023	4.3002	4.8307	5.8114	0.0243	1.5046	0.0777	1.5823	0.4062	0.0733	0.4794	0.0000	2,264.4626	2,264.4626	0.1463	0.0000	2,268.1193
Maximum	**4.3002**	**8.9221**	**7.5281**	**0.0321**	**2.6733**	**0.1837**	**2.8570**	**0.4716**	**0.1695**	**0.5855**	**0.0000**	**3,006.0019**	**3,006.0019**	**0.3084**	**0.0000**	**3,011.5905**

Ocean KAMP Project - San Diego County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**43.96**	**0.00**	**42.42**	**30.52**	**0.00**	**25.59**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2021**	**9-30-2021**	4.5147	4.5147
2	**10-1-2021**	**12-31-2021**	4.8250	4.8250
3	**1-1-2022**	**3-31-2022**	1.8550	1.8550
4	**4-1-2022**	**6-30-2022**	2.3690	2.3690
5	**7-1-2022**	**9-30-2022**	2.3950	2.3950
6	**10-1-2022**	**12-31-2022**	2.4273	2.4273
7	**1-1-2023**	**3-31-2023**	2.6221	2.6221
8	**4-1-2023**	**6-30-2023**	3.8397	3.8397
9	**7-1-2023**	**9-30-2023**	2.6160	2.6160
		Highest	4.8250	4.8250

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6600	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066
Energy	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	5,727.8327	5,727.8327	0.2192	0.0531	5,749.1296
Mobile	3.8195	14.9786	40.7457	0.1412	13.0860	0.1137	13.1997	3.5038	0.1058	3.6096	0.0000	13,364.3844	13,364.3844	0.6808	0.0000	13,381.4047
Waste						0.0000	0.0000		0.0000	0.0000	974.1536	0.0000	974.1536	57.5708	0.0000	2,413.4244
Water						0.0000	0.0000		0.0000	0.0000	17.7518	326.5751	344.3269	1.8364	0.0458	403.8773
Total	**9.5338**	**15.5024**	**46.1446**	**0.1444**	**13.0860**	**0.1800**	**13.2661**	**3.5038**	**0.1721**	**3.6759**	**991.9054**	**19,427.2944**	**20,419.1998**	**60.3155**	**0.0989**	**21,956.5426**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6600	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066
Energy	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	3,731.1456	3,731.1456	0.1389	0.0365	3,745.4782
Mobile	3.8195	14.9786	40.7457	0.1412	13.0860	0.1137	13.1997	3.5038	0.1058	3.6096	0.0000	13,364.3844	13,364.3844	0.6808	0.0000	13,381.4047
Waste						0.0000	0.0000		0.0000	0.0000	974.1536	0.0000	974.1536	57.5708	0.0000	2,413.4244
Water						0.0000	0.0000		0.0000	0.0000	17.7518	326.5751	344.3269	1.8364	0.0458	403.8773
Total	**9.5338**	**15.5024**	**46.1446**	**0.1444**	**13.0860**	**0.1800**	**13.2661**	**3.5038**	**0.1721**	**3.6759**	**991.9054**	**17,430.6072**	**18,422.5126**	**60.2351**	**0.0822**	**19,952.8912**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**10.28**	**9.78**	**0.13**	**16.82**	**9.13**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	7/1/2021	12/31/2021	5	132	
2	Underground Utilities	Trenching	10/1/2021	12/31/2021	5	66	
3	Paving	Paving	1/1/2022	2/28/2022	5	41	
4	Building Construction	Building Construction	3/1/2022	8/31/2023	5	393	
5	Architectural Coating	Architectural Coating	3/1/2023	8/31/2023	5	132	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 330

Acres of Paving: 29.15

Residential Indoor: 1,417,500; Residential Outdoor: 472,500; Non-Residential Indoor: 843,000; Non-Residential Outdoor: 281,000; Striped Parking Area: 76,186 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Underground Utilities	Excavators	1	8.00	158	0.38
Underground Utilities	Skid Steer Loaders	1	8.00	65	0.37
Underground Utilities	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
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
Grading	10	25.00	0.00	37,500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	4	10.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	5,900.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,528.00	479.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	306.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5935	0.0000	0.5935	0.2406	0.0000	0.2406	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3566	3.7572	2.5138	5.8400e-003		0.1565	0.1565		0.1440	0.1440	0.0000	512.7679	512.7679	0.1658	0.0000	516.9139
Total	**0.3566**	**3.7572**	**2.5138**	**5.8400e-003**	**0.5935**	**0.1565**	**0.7500**	**0.2406**	**0.1440**	**0.3846**	**0.0000**	**512.7679**	**512.7679**	**0.1658**	**0.0000**	**516.9139**

3.2 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1408	4.8969	1.2079	0.0144	6.7059	0.0148	6.7207	0.7248	0.0142	0.7390	0.0000	1,428.0397	1,428.0397	0.1289	0.0000	1,431.2618
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7400e-003	4.0900e-003	0.0412	1.3000e-004	0.0132	9.0000e-005	0.0133	3.5200e-003	9.0000e-005	3.6000e-003	0.0000	11.5586	11.5586	3.3000e-004	0.0000	11.5669
Total	**0.1466**	**4.9009**	**1.2491**	**0.0145**	**6.7191**	**0.0149**	**6.7340**	**0.7283**	**0.0143**	**0.7426**	**0.0000**	**1,439.5983**	**1,439.5983**	**0.1292**	**0.0000**	**1,442.8287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2671	0.0000	0.2671	0.1083	0.0000	0.1083	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3566	3.7572	2.5138	5.8400e-003		0.1565	0.1565		0.1440	0.1440	0.0000	512.7673	512.7673	0.1658	0.0000	516.9133
Total	**0.3566**	**3.7572**	**2.5138**	**5.8400e-003**	**0.2671**	**0.1565**	**0.4236**	**0.1083**	**0.1440**	**0.2522**	**0.0000**	**512.7673**	**512.7673**	**0.1658**	**0.0000**	**516.9133**

3.2 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.1408	4.8969	1.2079	0.0144	2.3881	0.0148	2.4029	0.2930	0.0142	0.3072	0.0000	1,428.0397	1,428.0397	0.1289	0.0000	1,431.2618
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7400e-003	4.0900e-003	0.0412	1.3000e-004	0.0132	9.0000e-005	0.0133	3.5200e-003	9.0000e-005	3.6000e-003	0.0000	11.5586	11.5586	3.3000e-004	0.0000	11.5669
Total	**0.1466**	**4.9009**	**1.2491**	**0.0145**	**2.4014**	**0.0149**	**2.4163**	**0.2966**	**0.0143**	**0.3108**	**0.0000**	**1,439.5983**	**1,439.5983**	**0.1292**	**0.0000**	**1,442.8287**

3.3 Underground Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2293	0.3030	4.4000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	38.9838	38.9838	0.0126	0.0000	39.2990
Total	**0.0224**	**0.2293**	**0.3030**	**4.4000e-004**		**0.0122**	**0.0122**		**0.0112**	**0.0112**	**0.0000**	**38.9838**	**38.9838**	**0.0126**	**0.0000**	**39.2990**

3.3 Underground Utilities - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0339	9.0400e-003	9.0000e-005	2.1900e-003	7.0000e-005	2.2600e-003	6.3000e-004	7.0000e-005	7.0000e-004	0.0000	8.6275	8.6275	6.4000e-004	0.0000	8.6435
Worker	1.1500e-003	8.2000e-004	8.2400e-003	3.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3117	2.3117	7.0000e-005	0.0000	2.3134
Total	**2.1700e-003**	**0.0347**	**0.0173**	**1.2000e-004**	**4.8400e-003**	**9.0000e-005**	**4.9300e-003**	**1.3300e-003**	**9.0000e-005**	**1.4200e-003**	**0.0000**	**10.9392**	**10.9392**	**7.1000e-004**	**0.0000**	**10.9569**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2293	0.3030	4.4000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	38.9838	38.9838	0.0126	0.0000	39.2990
Total	**0.0224**	**0.2293**	**0.3030**	**4.4000e-004**		**0.0122**	**0.0122**		**0.0112**	**0.0112**	**0.0000**	**38.9838**	**38.9838**	**0.0126**	**0.0000**	**39.2990**

3.3 Underground Utilities - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0339	9.0400e-003	9.0000e-005	2.1900e-003	7.0000e-005	2.2600e-003	6.3000e-004	7.0000e-005	7.0000e-004	0.0000	8.6275	8.6275	6.4000e-004	0.0000	8.6435
Worker	1.1500e-003	8.2000e-004	8.2400e-003	3.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3117	2.3117	7.0000e-005	0.0000	2.3134
Total	**2.1700e-003**	**0.0347**	**0.0173**	**1.2000e-004**	**4.8400e-003**	**9.0000e-005**	**4.9300e-003**	**1.3300e-003**	**9.0000e-005**	**1.4200e-003**	**0.0000**	**10.9392**	**10.9392**	**7.1000e-004**	**0.0000**	**10.9569**

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2281	0.2989	4.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	41.0565	41.0565	0.0133	0.0000	41.3885
Paving	0.0382					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0608**	**0.2281**	**0.2989**	**4.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**41.0565**	**41.0565**	**0.0133**	**0.0000**	**41.3885**

3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0208	0.7044	0.1887	2.2200e-003	0.0505	1.9700e-003	0.0525	0.0139	1.8900e-003	0.0158	0.0000	221.7310	221.7310	0.0201	0.0000	222.2326
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.0000e-004	7.1300e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.0751	2.0751	6.0000e-005	0.0000	2.0766
Total	**0.0218**	**0.7051**	**0.1958**	**2.2400e-003**	**0.0530**	**1.9900e-003**	**0.0549**	**0.0145**	**1.9100e-003**	**0.0164**	**0.0000**	**223.8061**	**223.8061**	**0.0201**	**0.0000**	**224.3091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2281	0.2989	4.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	41.0564	41.0564	0.0133	0.0000	41.3884
Paving	0.0382					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0608**	**0.2281**	**0.2989**	**4.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**41.0564**	**41.0564**	**0.0133**	**0.0000**	**41.3884**

3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0208	0.7044	0.1887	2.2200e-003	0.0505	1.9700e-003	0.0525	0.0139	1.8900e-003	0.0158	0.0000	221.7310	221.7310	0.0201	0.0000	222.2326
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.0000e-004	7.1300e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.0751	2.0751	6.0000e-005	0.0000	2.0766
Total	**0.0218**	**0.7051**	**0.1958**	**2.2400e-003**	**0.0530**	**1.9900e-003**	**0.0549**	**0.0145**	**1.9100e-003**	**0.0164**	**0.0000**	**223.8061**	**223.8061**	**0.0201**	**0.0000**	**224.3091**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1868	1.7099	1.7918	2.9500e-003		0.0886	0.0886		0.0834	0.0834	0.0000	253.7391	253.7391	0.0608	0.0000	255.2589
Total	**0.1868**	**1.7099**	**1.7918**	**2.9500e-003**		**0.0886**	**0.0886**		**0.0834**	**0.0834**	**0.0000**	**253.7391**	**253.7391**	**0.0608**	**0.0000**	**255.2589**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1508	5.0901	1.3609	0.0139	0.3481	9.8200e-003	0.3580	0.1005	9.3900e-003	0.1099	0.0000	1,358.2801	1,358.2801	0.0986	0.0000	1,360.7449
Worker	0.5504	0.3783	3.8807	0.0125	1.3417	9.2900e-003	1.3510	0.3565	8.5500e-003	0.3651	0.0000	1,129.1204	1,129.1204	0.0308	0.0000	1,129.8896
Total	**0.7012**	**5.4684**	**5.2417**	**0.0264**	**1.6899**	**0.0191**	**1.7090**	**0.4571**	**0.0179**	**0.4750**	**0.0000**	**2,487.4005**	**2,487.4005**	**0.1294**	**0.0000**	**2,490.6345**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1868	1.7099	1.7918	2.9500e-003		0.0886	0.0886		0.0834	0.0834	0.0000	253.7388	253.7388	0.0608	0.0000	255.2586
Total	**0.1868**	**1.7099**	**1.7918**	**2.9500e-003**		**0.0886**	**0.0886**		**0.0834**	**0.0834**	**0.0000**	**253.7388**	**253.7388**	**0.0608**	**0.0000**	**255.2586**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1508	5.0901	1.3609	0.0139	0.3481	9.8200e-003	0.3580	0.1005	9.3900e-003	0.1099	0.0000	1,358.2801	1,358.2801	0.0986	0.0000	1,360.7449
Worker	0.5504	0.3783	3.8807	0.0125	1.3417	9.2900e-003	1.3510	0.3565	8.5500e-003	0.3651	0.0000	1,129.1204	1,129.1204	0.0308	0.0000	1,129.8896
Total	**0.7012**	**5.4684**	**5.2417**	**0.0264**	**1.6899**	**0.0191**	**1.7090**	**0.4571**	**0.0179**	**0.4750**	**0.0000**	**2,487.4005**	**2,487.4005**	**0.1294**	**0.0000**	**2,490.6345**

3.5 Building Construction - 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	tons/yr										MT/yr					
Off-Road	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6701	201.6701	0.0480	0.0000	202.8695
Total	**0.1368**	**1.2515**	**1.4132**	**2.3400e-003**		**0.0609**	**0.0609**		**0.0573**	**0.0573**	**0.0000**	**201.6701**	**201.6701**	**0.0480**	**0.0000**	**202.8695**

3.5 Building Construction - 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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0925	3.1771	0.9847	0.0107	0.2766	3.8100e-003	0.2804	0.0799	3.6400e-003	0.0835	0.0000	1,052.0144	1,052.0144	0.0715	0.0000	1,053.8027
Worker	0.4145	0.2745	2.8595	9.5400e-003	1.0660	7.2300e-003	1.0733	0.2833	6.6600e-003	0.2899	0.0000	862.8416	862.8416	0.0224	0.0000	863.4005
Total	**0.5070**	**3.4515**	**3.8442**	**0.0203**	**1.3426**	**0.0110**	**1.3537**	**0.3631**	**0.0103**	**0.3734**	**0.0000**	**1,914.8560**	**1,914.8560**	**0.0939**	**0.0000**	**1,917.2032**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6699	201.6699	0.0480	0.0000	202.8692
Total	**0.1368**	**1.2515**	**1.4132**	**2.3400e-003**		**0.0609**	**0.0609**		**0.0573**	**0.0573**	**0.0000**	**201.6699**	**201.6699**	**0.0480**	**0.0000**	**202.8692**

3.5 Building Construction - 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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0925	3.1771	0.9847	0.0107	0.2766	3.8100e-003	0.2804	0.0799	3.6400e-003	0.0835	0.0000	1,052.0144	1,052.0144	0.0715	0.0000	1,053.8027
Worker	0.4145	0.2745	2.8595	9.5400e-003	1.0660	7.2300e-003	1.0733	0.2833	6.6600e-003	0.2899	0.0000	862.8416	862.8416	0.0224	0.0000	863.4005
Total	**0.5070**	**3.4515**	**3.8442**	**0.0203**	**1.3426**	**0.0110**	**1.3537**	**0.3631**	**0.0103**	**0.3734**	**0.0000**	**1,914.8560**	**1,914.8560**	**0.0939**	**0.0000**	**1,917.2032**

3.6 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	3.5808					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0860	0.1195	2.0000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003	0.0000	16.8515	16.8515	1.0100e-003	0.0000	16.8767
Total	**3.5934**	**0.0860**	**0.1195**	**2.0000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**	**0.0000**	**16.8515**	**16.8515**	**1.0100e-003**	**0.0000**	**16.8767**

3.6 Architectural Coating - 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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0630	0.0417	0.4344	1.4500e-003	0.1620	1.1000e-003	0.1631	0.0430	1.0100e-003	0.0441	0.0000	131.0853	131.0853	3.4000e-003	0.0000	131.1702
Total	**0.0630**	**0.0417**	**0.4344**	**1.4500e-003**	**0.1620**	**1.1000e-003**	**0.1631**	**0.0430**	**1.0100e-003**	**0.0441**	**0.0000**	**131.0853**	**131.0853**	**3.4000e-003**	**0.0000**	**131.1702**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.5808					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0860	0.1195	2.0000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003	0.0000	16.8515	16.8515	1.0100e-003	0.0000	16.8767
Total	**3.5934**	**0.0860**	**0.1195**	**2.0000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**	**0.0000**	**16.8515**	**16.8515**	**1.0100e-003**	**0.0000**	**16.8767**

3.6 Architectural Coating - 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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0630	0.0417	0.4344	1.4500e-003	0.1620	1.1000e-003	0.1631	0.0430	1.0100e-003	0.0441	0.0000	131.0853	131.0853	3.4000e-003	0.0000	131.1702
Total	**0.0630**	**0.0417**	**0.4344**	**1.4500e-003**	**0.1620**	**1.1000e-003**	**0.1631**	**0.0430**	**1.0100e-003**	**0.0441**	**0.0000**	**131.0853**	**131.0853**	**3.4000e-003**	**0.0000**	**131.1702**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.8195	14.9786	40.7457	0.1412	13.0860	0.1137	13.1997	3.5038	0.1058	3.6096	0.0000	13,364.3844	13,364.3844	0.6808	0.0000	13,381.4047
Unmitigated	3.8195	14.9786	40.7457	0.1412	13.0860	0.1137	13.1997	3.5038	0.1058	3.6096	0.0000	13,364.3844	13,364.3844	0.6808	0.0000	13,381.4047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	5,600.00	5,698.00	5698.00	9,013,805	9,013,805
Hotel	3,000.00	2,457.00	2457.00	7,870,013	7,870,013
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	360.20	459.91	459.91	1,075,258	1,075,258
Strip Mall	10,080.40	5,810.61	5810.61	16,771,078	16,771,078
Total	19,040.60	14,425.52	14,425.52	34,730,153	34,730,153

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	4.40	7.30	7.50	100.00	0.00	0.00	100	0	0
Hotel	9.50	7.60	7.30	0.00	100.00	0.00	100	0	0
Other 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
Recreational Swimming Pool	9.50	7.60	7.30	0.00	100.00	0.00	100	0	0
Strip Mall	9.50	5.20	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Condo/Townhouse	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Hotel	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Other Asphalt Surfaces	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Parking Lot	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Recreational Swimming Pool	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998
Strip Mall	0.606234	0.039465	0.179154	0.102641	0.014368	0.005395	0.016820	0.024508	0.001929	0.001857	0.005869	0.000761	0.000998

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

Ocean KAMP Project - San Diego County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,193.8790	3,193.8790	0.1286	0.0266	3,205.0190
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,190.5662	5,190.5662	0.2089	0.0432	5,208.6704
NaturalGas Mitigated	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	537.2666	537.2666	0.0103	9.8500e-003	540.4593
NaturalGas Unmitigated	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	537.2666	537.2666	0.0103	9.8500e-003	540.4593

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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	0.0000
Condo/Townhouse	1.0068e+007	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	537.2666	537.2666	0.0103	9.8500e-003	540.4593
Hotel	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	0.0000
Other 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	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	0.0000
Recreational Swimming Pool	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	0.0000
Strip Mall	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	0.0000
Total		**0.0543**	**0.4639**	**0.1974**	**2.9600e-003**		**0.0375**	**0.0375**		**0.0375**	**0.0375**	**0.0000**	**537.2666**	**537.2666**	**0.0103**	**9.8500e-003**	**540.4593**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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	0.0000
Condo/Townhouse	1.0068e+007	0.0543	0.4639	0.1974	2.9600e-003		0.0375	0.0375		0.0375	0.0375	0.0000	537.2666	537.2666	0.0103	9.8500e-003	540.4593
Hotel	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	0.0000
Other 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	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	0.0000
Recreational Swimming Pool	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	0.0000
Strip Mall	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	0.0000
Total		**0.0543**	**0.4639**	**0.1974**	**2.9600e-003**		**0.0375**	**0.0375**		**0.0375**	**0.0375**	**0.0000**	**537.2666**	**537.2666**	**0.0103**	**9.8500e-003**	**540.4593**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3.51633e+006	1,149.1678	0.0463	9.5700e-003	1,153.1760
Hotel	1.22229e+007	3,994.5626	0.1608	0.0333	4,008.4953
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	143312	46.8358	1.8900e-003	3.9000e-004	46.9991
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**5,190.5662**	**0.2089**	**0.0432**	**5,208.6704**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	-872807	-285.2410	-0.0115	-0.0024	-286.2359
Condo/Townhouse	2.64352e+006	863.9268	0.0348	7.1900e-003	866.9401
Hotel	1.13501e+007	3,709.3216	0.1493	0.0309	3,722.2594
Other Asphalt Surfaces	-872807	-285.2410	-0.0115	-0.0024	-286.2359
Parking Lot	-729495	-238.4053	-0.0096	-0.0020	-239.2368
Recreational Swimming Pool	-872807	-285.2410	-0.0115	-0.0024	-286.2359
Strip Mall	-872807	-285.2410	-0.0115	-0.0024	-286.2359
Total		**3,193.8790**	**0.1286**	**0.0266**	**3,205.0190**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.6600	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066
Unmitigated	5.6600	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4883					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.0149					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1568	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066
Total	**5.6600**	**0.0599**	**5.2015**	**2.7000e-004**		**0.0288**	**0.0288**		**0.0288**	**0.0288**	**0.0000**	**8.5021**	**8.5021**	**8.1800e-003**	**0.0000**	**8.7066**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4883					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.0149					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1568	0.0599	5.2015	2.7000e-004		0.0288	0.0288		0.0288	0.0288	0.0000	8.5021	8.5021	8.1800e-003	0.0000	8.7066
Total	**5.6600**	**0.0599**	**5.2015**	**2.7000e-004**		**0.0288**	**0.0288**		**0.0288**	**0.0288**	**0.0000**	**8.5021**	**8.5021**	**8.1800e-003**	**0.0000**	**8.7066**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	344.3269	1.8364	0.0458	403.8773
Unmitigated	344.3269	1.8364	0.0458	403.8773

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	35.77 / 15.33	219.2239	1.1739	0.0293	257.2895
Hotel	10.95 / 2.19	58.0219	0.3590	8.8800e-003	69.6429
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	5.475 / 3.65	38.2877	0.1799	4.5200e-003	44.1306
Strip Mall	3.7595 / 3.19557	28.7934	0.1236	3.1200e-003	32.8143
Total		**344.3269**	**1.8364**	**0.0458**	**403.8773**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	35.77 / 15.33	219.2239	1.1739	0.0293	257.2895
Hotel	10.95 / 2.19	58.0219	0.3590	8.8800e-003	69.6429
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	5.475 / 3.65	38.2877	0.1799	4.5200e-003	44.1306
Strip Mall	3.7595 / 3.19557	28.7934	0.1236	3.1200e-003	32.8143
Total		**344.3269**	**1.8364**	**0.0458**	**403.8773**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	974.1536	57.5708	0.0000	2,413.4244
Unmitigated	974.1536	57.5708	0.0000	2,413.4244

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3852	781.9212	46.2102	0.0000	1,937.1767
Hotel	947	192.2324	11.3606	0.0000	476.2477
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**974.1536**	**57.5708**	**0.0000**	**2,413.4244**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3852	781.9212	46.2102	0.0000	1,937.1767
Hotel	947	192.2324	11.3606	0.0000	476.2477
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**974.1536**	**57.5708**	**0.0000**	**2,413.4244**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation