APPENDIX G

Greenhouse Gas Emissions and ELDP Documentation

G-1 Greenhouse Gas Technical Appendix

6220 WEST YUCCA MIXED USE PROJECT

Greenhouse Gas Technical Appendix

Prepared for
Champion Real Estate Company

March 2020

ESA

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Acronyms and Abbreviations

Acronym	Description
AR4	(Intergovernmental Panel on Climate Change) Fourth Assessment Report
BAAQMD	Bay Area Air Quality Management District
Btu	British thermal unit
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEUS	Commercial End-Use Survey
CH_4	Methane
City	City of Los Angeles
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
EIR	Environmental Impact Report
EMFAC	on-road vehicle emissions factor model
GHG	Greenhouse Gas
GWP	Global Warming Potential
hp	horsepower
HQTA	high-quality transit area
IPCC	Intergovernmental Panel on Climate Change
kW	Kilowatt
LADWP	Los Angeles Department of Water and Power
LEED	Leadership and Energy and Environmental Design
$MTCO_2e$	Metric ton of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
N_2O	Nitrous Oxide
NOP	Notice of Preparation
OFFROAD	off-road emissions factor model
PDF	Project design feature
RASS	Residential Appliance Saturation Survey
SAR	(Intergovernmental Panel on Climate Change) Second Assessment Report
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
TPA	transit priority area
USEPA	United States Environmental Protection Agency
USGBC	United States Green Building Code
VMT	Vehicle miles travelled

6220 WEST YUCCA MIXED USE PROJECT

Greenhouse Gas Emissions Methodology

1. Introduction

ESA conducted a comprehensive greenhouse gas (GHG) emissions analysis and report for the 6220 West Yucca Mixed Use Project (Project). Emissions associated with construction and operation of the Project were quantified. This technical appendix describes the methodology used to estimate GHG emissions from the Project. Methodology for emissions reductions from project design features (PDFs) and mitigation measures are also described herein. This section describes the methodology used to calculate emissions resulting from Project construction and operational activities to evaluate greenhouse gas impacts. Detailed modeling calculations and supporting files are provided in **Exhibits A** through **C** of this Technical Appendix.

2. Methodology

This section describes the methodology used to calculate GHG emissions resulting from Project construction and operational activities and to evaluate GHG impacts. The GHG emissions evaluated include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[1] These GWP ratios are available from the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. 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. Construction activities would generate GHG emissions from equipment usage, truck hauling and worker vehicle commutes. Long-term operational activities would generate GHG emissions through vehicle trips, energy usage, water demand, solid waste and wastewater generation, and area source emissions such as landscaping equipment.

1 GWPs and associated CO2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The California Air Resources Board (CARB) has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.

2.1 Project Construction Emissions

Construction of the Project has the potential to generate GHG emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from workers and haul trucks traveling to and from the Project Site. Mobile source emissions, primarily CO_2, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

Construction GHG impacts were assessed based on the incremental increase in emissions compared to baseline conditions. Under CEQA, the baseline environmental setting for an Environmental Impact Report (EIR) is generally established at or around the time that the Notice of Preparation (NOP) for the EIR is published. The Project Site is currently developed with one single-family residence, one duplex, one studio apartment, and three, two-story apartment buildings (43 existing multi-family/apartment units total) and associated carports and paved surface parking areas, for a total of 44 dwelling units. These existing uses would be demolished and removed to allow for development of the Project.

Project construction activities that would have the potential to create GHG emissions include vehicle trips generated by construction workers, vendor trucks, and haul trucks traveling to and from the Project Site. The Project's GHG emissions during construction have been estimated by assuming a conservative scenario for construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source emissions factors. The emissions have been estimated using the California Emissions Estimator Model (CalEEMod) software, an emissions inventory software program recommended by the SCAQMD. The input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. Demolition and excavation haul truck trip estimates were based on demolition and excavation volumes obtained from the Applicant and 10 cubic yards demolition debris capacity haul trucks and 14 cubic yards excavation soil capacity haul trucks; worker trip estimates and vendor truck trip estimates were based on calculation methodologies in CalEEMod. CalEEMod is based on outputs from the CARB off-road emissions factor (OFFROAD) and on-road emissions factor (EMFAC) models, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles. These values were applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity.

Construction phasing would include demolition of the existing buildings and associated parking, site clearing, grading, excavation, subterranean parking and building construction. The Project would export approximately 120,000 cubic yards of soil and generate approximately 5,000 cubic yards of demolition debris that would need to be hauled away (asphalt, interior and exterior building demolition, and general construction debris). Vendor trucks would be used to deliver building foundation materials to the Project Site. Emissions from these on-road heavy-duty truck activities were estimated by construction phase using the CARB EMFAC2017 model.

Detailed Project construction phasing, equipment list, and emissions calculations are provided in **Exhibit A** of this Technical Appendix. The Project may commence construction activities at a

later date than shown in the emissions modeling files in **Exhibit A**. If this occurs, construction GHG emissions would be lower than those analyzed herein due to the use of a more energy-efficient and cleaner burning construction vehicle fleet mix, pursuant to State regulations that require vehicle fleet operators to phase-in less polluting heavy-duty equipment. As a result, should Project construction commence at a later date than analyzed herein, GHG emissions and associated GHG impacts would be lower than the impacts disclosed in the Project's Draft EIR.

2.1.1 Emissions from Construction Equipment

Construction of the Project would result GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O from construction equipment during the construction phase. Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the off-road emissions factors using CalEEMod. The output values used in this analysis are adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the same construction equipment and phasing assumptions used in the criteria pollutant analysis to generate GHG emissions values for each construction year.

Construction equipment emissions will vary with engine model years in which newer equipment will emit fewer pollutants. The CalEEMod model uses an emission rate for equipment, which represents an average model year for available equipment unless the specific emissions standards are applied to the equipment. The proposed Project would incorporate into the Project design the use of standardized and environmentally protective construction equipment consistent with state regulations (Title 13 California Code of Regulations [CCR] Section 2449) and SCAQMD Air Quality Management Plan (AQMP) control strategies to control emissions (refer to the discussion of PDFs discussed below). CalEEMod calculates the exhaust emissions based on the CARB OFFROAD methodology using the equation presented below.

Construction Off-Road Equipment:

$$Emissions_{Diesel}\ [MTCO_2e] = \sum_i (EF \times Pop \times AvgHP \times Load \times Activity \times GWP)_i \div 10^6$$

Where:

$MTCO_2e$	=	Metric tons of carbon dioxide equivalents
EF	=	Emission factor from OFFROAD [g/bhp-hr]
Pop	=	Population [quantity of same equipment type]
AvgHP	=	Maximum rated average horsepower [hp]
Load	=	Load Factor [dimensionless]
Activity	=	Hours of operation [hours]
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
10^6	=	Conversion factor [g/MT]
i	=	Summation Index

The CalEEMod software provides options for specifying equipment, horsepower ratings, load factors, and operational hours per day. The emission forecasts provided reflect a specific set of

conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Construction equipment lists for each phase of activity were provided by the applicant and/or applicant's construction contractor(s) and architect(s). The amount of construction equipment used and the duration of construction activity could have a substantial effect upon the amount of construction emissions, concentrations and the resulting impacts occurring at any one time. As such, the emission forecasts provided reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner.

2.1.2 Emissions from On-Road Trips

Construction generates on-road vehicle exhaust from personal vehicles for worker and vendor commuting, and trucks for soil and material hauling. These emissions are based on the number of trips and vehicle miles traveled (VMT) along with emission factors from EMFAC. Emissions for GHGs were obtained from EMFAC in units of grams per VMT. The emissions from mobile sources were calculated with the trip rates, trip lengths and emission factors from EMFAC as follows:

Construction On-Road Trips:

$$Emissions_{pollutant}\ [MTCO_2e] = \sum_i (VMT \times EF_{pollutant} \times GWP)_i \div 10^6$$

Where: $Emissions_{pollutant}$ = emissions from vehicles for each pollutant [g]
VMT = vehicle miles traveled [miles]
$EF_{pollutant}$ = emission factor for each pollutant [g/mile]
GWP = Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
10^6 = Conversion factor [g/MT]
i = Summation Index

2.2 Project Operational Emissions

Operation of the Project has the potential to generate GHG emissions through vehicle trips traveling to and from the Project Site. In addition, emissions would result from area sources on-site such as building natural gas combustion from water heaters, building electricity demand, water demand, solid waste and wastewater generation, and landscaping equipment. GHG emissions would also be generated by point sources including an emergency generator. The Project is not expected to contain any large stationary combustion equipment such as large boilers or combustion turbines.

The Project's operational GHG emissions were estimated using the CalEEMod software for natural gas combustion from building heating and cooking and landscaping equipment. For mobile sources, GHG emissions were estimated based on the Project's VMT analysis in the CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood,

California[2]. The EMFAC2017 model was used to generate Air Basin-specific vehicle fleet emission factors in units of grams or metric tons per mile. These emission factors were then applied to the annual VMT to obtain annual mobile source GHG emissions. Daily VMT are provided in the Project's VMT analysis in the CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California.[3] The VMT calculations for the Project Site uses are provided in **Exhibit B** of this Technical Appendix.

Natural gas and electricity usage factors in CalEEMod are based on the California Energy Commission (CEC) 2002 Commercial End-Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) data adjusted to reflect more recent Title 24 improvements.

Stationary sources would include on-site emergency generator capacity, estimated at approximately 250 kilowatts (335 horsepower). The emergency generator would result in emissions during maintenance and testing operations. Emergency generators are permitted by the SCAQMD and regulated under SCAQMD Rule 1470. Maintenance and testing would not occur daily, but rather periodically, up to 50 hours per year per Rule 1470. For the purposes of estimating annual GHG emissions, it is estimated that the emergency generators would operate for up to 50 hours in a year for maintenance and testing purposes.

Operational GHG emissions impacts were assessed based on the incremental increase in emissions compared to baseline conditions. Under CEQA, the baseline environmental setting for an EIR is generally established at or around the time that the NOP for the EIR is published. As discussed previously, the Project Site is currently developed with one single-family residence, one duplex, one studio apartment, and three, two-story apartment buildings (43 existing multi-family/apartment units total) and associated carports and paved surface parking areas, for a total of 44 dwelling units. For the purposes of this analysis, no existing operational greenhouse gas emissions are assumed from the existing site uses and the Project's greenhouse gas emissions are conservatively considered to be net new operational emissions. Detailed Project operational emissions calculations are provided in **Exhibit B** of this Technical Appendix.

2.2.1 Emissions from Area Sources (Hearths and Landscaping Equipment)

Area source emissions were calculated using CalEEMod default assumptions for the Project land uses. Area sources of GHG emissions include hearths and landscape maintenance equipment. Emissions associated with natural gas and electricity usage are discussed in the building energy use section below.

2 Gibson Transportation Consulting, Inc., CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California. Provided in Appendix L-1 of the Project's Draft EIR.

3 Gibson Transportation Consulting, Inc., CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California. Provided in Appendix L-1 of the Project's Draft EIR.

Hearths (Fireplaces)

The Project would not include natural gas-fired fireplaces in the residential uses as per Project Design Feature PDF-AQ-1. Therefore, emissions from hearths (fireplaces) are not included in the Project's emissions calculations.

Landscaping Equipment

Emissions from Project uses include equipment used to maintain landscaping, such as lawnmowers and trimmers. The CalEEMod software uses landscaping equipment emission factors from the CARB OFFROAD emissions factor model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.[4] The CalEEMod software assumes that landscaping equipment operates for 250 days per year in the South Coast Air Basin.

Landscaping Equipment

Annual Emissions [$MTCO_2e$] = $(\sum_i (Units \times EF_{LE} \times A_{LE} \times GWP)_i) \div 10^6$

Where: Units = Number of land use units (same land use type) [DU or sqft]
EF_{LE} = Emission factor [grams [g] / DU or sqft / day]
A_{LE} = Landscaping equipment operating days per year [day/year]
GWP = Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
10^6 = Conversion factor [g/MT]
i = Summation index

2.2.2 Emissions from Building Energy Usage (Natural Gas)

With regard to energy usage, the consumption of fossil fuels to provide heating and hot water generates GHG emissions. The combustion of natural gas results in relatively equal amounts of GHG emissions per unit of gas combusted in the state. Emission factors for GHGs due to natural gas combustion to serve the heating and cooking demands of the Project were obtained from the CalEEMod software, which provides statewide emission factors. Future fuel consumption rates are estimated based on specific square footage of the Project land uses. Energy usage (on-site natural gas consumption) for the Project is calculated within CalEEMod using the CEC CEUS and RASS data sets.[5] These data sets provide energy intensities of different land uses throughout the state and different climate zones. However, since the data from the CEUS is from 2002 and the RASS data is similarly from an earlier time period, the CalEEMod software incorporates correction factors to account for compliance with the Title 24 Building Standards Code. The correction factors are applied only to the new building construction.

4 California Air Resources Board, OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment, June 13, 2003, http://www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf. Accessed January 2019.

5 California Energy Commission, California Commercial End-Use Survey, http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed March 2018.

Natural gas-related emissions of GHGs associated with operation of the Project are based on the size of the Project land uses, and the natural gas demand factors for the land uses. Natural gas GHG emissions are generally calculated as follows:

Natural Gas:

Annual Emissions [$MTCO_2e$] = ($\sum_i$ (Units × D_{NG} × EF_{NG} × GWP)$_i$) ÷ 2204.62

Where: Units = Number of land use units (same type) [DU or 1000 sqft]
D_{NG} = Natural gas combustion factor [MMBtu/DU or 1000 sqft/year]
EF_{NG} = Emission factor [lbs/MMBtu]
GWP = Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6 = Conversion factor [pounds/MT]
i = Summation index

2.2.3 Emissions from Building Energy Usage (Electricity)

The generation of electricity in California is achieved through the combustion of fossil fuels, primarily natural gas, using steam boilers, internal combustion engines, and combustion turbines. A portion of the electricity in California is imported from outside the state and is derived from the combustion of coal and other non-gaseous fossil fuels. The combustion of fossil fuels to produce electricity results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The electricity generation occurs off-site; therefore, electricity use results in GHG emissions that are considered to be indirect.

Emissions of the Project's GHGs are based on the size of the Project land uses, the electrical demand factors for the land uses, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted. This assessment also includes electricity-related GHG emissions from the parking lot, which would include lighting electricity. Annual electricity GHG emissions in units of $MTCO_2e$ are calculated as follows:

Electricity:

Annual Emissions [$MTCO_2e$] = ($\sum_i$ (Units × D_E × EF_E × GWP)$_i$) ÷ 2204.6

Where: Units = Number of land use units (same land use type) [1000 sqft]
D_E = Electrical demand factor [megawatt-hour (MWh)/1000 sqft/year]
EF_E = GHG emission factor [pounds per megawatt-hour (MWh)]
GWP = Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6 = Conversion factor [pounds/MT]
i = Summation index

Since the Project would also be required to meet the Title 24 standards in effect at the time of building permit application (potentially the 2019 standards if adopted at the time of building permit application), this analysis conservatively applies the 2016 Title 24 Building Standards Code for the Project.

The Los Angeles Department of Water and Power (LADWP) provides electric service to the Project Site. While not required by CEQA, the Project would voluntarily meet the requirements of the Jobs and Economic Improvement Through Environmental Leadership Act (the Act). This Act requires, among other things, that the Project achieve no net increase in GHG emissions. According to CARB staff, for projects that would voluntarily meet the requirements of the Act, "[i]f an applicant would like to use an EF [emission factor] that represents the state's Renewable Portfolio Standard (RPS) law and growth in electricity demand, the EF of 595 [pounds] CO_2/MWh may be used."[6] According to CARB staff, the "EF represents a 'marginal' supply profile for new generation that will be added to the grid in the years 2020 and beyond, and is consistent with the methodology used in state emission rule impact assessments."[7] Therefore, consistent with the CARB staff recommendation, a CO_2 intensity factor of 595 pounds of CO_2 per MWh was used for electricity emissions for the Project initial operational year. Emission factors for CH_4 and N_2O were obtained from CalEEMod.[8]

2.2.4 Emissions from Mobile Sources

The Project's VMT was taken from the Project's VMT analysis in the CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California.[9] The VMT analysis is based on the City's VMT Calculator tool, which accounts for a variety of sociodemographic, land use, and built environment factors estimated for each census tract within the City as well as the interaction of land uses within a mixed-use development. Some of the key factors built into the VMT Calculator include travel behavior zones, mixed-use development methodology, population and employment assumptions, and Transportation Demand Management (TDM) measures that would be provided as project design features or incorporated as mitigation measures. Further information regarding the methods used by the VMT Calculator to estimate daily trips and daily VMT is provided in Section IV.L, *Transportation*, of this Draft EIR. In general, VMT estimates consider the following factors described below.

Trip Type

The trip type breakdown describes the purpose of the trip generated at each land use. For example, the trip type breakdown indicates the percentage of trips generated at single family home for work, for shopping, and for other purposes. Multiplying the total trips for a land use by trip type breakdown percentage yields trips of a given trip type. Two sets of trip type breakdown are used in CalEEMod – residential breakdown and commercial breakdown.

Residential trip type: These include home-work (H-W), home-shop (H-S), or home-other (H-O). A home-work trip represents the trip from the home to the workplace. A home-shop trip represents the trip from the home to a land use where shopping takes place (generally retail). A

6 California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects, January 2017. This document is provided at the end of Appendix G of the Project's Draft EIR.

7 California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects, January 2017. This document is provided at the end of Appendix G of the Project's Draft EIR.

8 California Air Pollution Control Officers Association, California Emissions Estimator Model, http://www.caleemod.com/. Accessed January 2017.

9 Gibson Transportation Consulting, Inc., CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California. Provided in Appendix L-1 of the Project's Draft EIR.

home-other represents all other types of trips generated from the resident such as school, entertainment, etc. The trip type breakdown is from district supplied information or the 1999 Caltrans Statewide Travel Survey is used as default or specific information obtained from the various air quality management and air pollution control districts.

Commercial trip type: These include commercial-customer (C-C), commercial-work (C-W) and commercial-nonwork (C-NW). A commercial-customer trip represents a trip made by someone who is visiting the commercial land use to partake in the services offered by the Site. The commercial-work trip represents a trip made by someone who is employed by the commercial land use sector. The commercial-nonwork trip represents a trip associated with the commercial land use other than by customers or workers. An example of C-NW trips includes trips made by delivery vehicles of goods associated with the land use.

Primary Trip Length

In CalEEMod, each trip type has a primary trip length associated with it. These trip lengths are based on the location and urbanization selected on the project characteristic screen. These values were supplied by the districts or use a default average for the state. Each district (or county) also assigns trip lengths for urban and rural settings.

Pass-by and Diverted Trips

Trip link types further describe the characteristics of the trip attracted to each land use, whether it's a primary trip, a diverted link trip, or a pass-by trip. For example, a commercial customer pass-by trip could be a person going from home to shop on his/her way to work. In addition, a commercial customer diverted-link trip could be a person going from home to work, and on its way making a diversion to shop. Pass-by trips generate virtually no additional running emissions but could generate additional resting and startup emissions. Diverted trips generate less running emissions compared to primary trips, and can also generate additional resting and startup emissions.

Mobile Source Emission Factors

Mobile source emissions were calculated outside of CalEEMod using the EMFAC2017 model. EMFAC was used to generate emission factors, in pounds per mile, for the South Coast Air Basin's motor vehicle fleet mix. Using the annual VMT and emission factors, annual GHG emissions were estimated.

Emissions from motor vehicles are dependent on model years and the specific types of vehicles that are used to travel to and from the Project Site. The emissions were calculated using a representative motor vehicle fleet mix for the South Coast Air Basin for the opening year of the Project. As discussed above, all vehicle types would visit the Project Site; therefore, the use of the motor vehicle fleet mix for the South Coast Air Basin is an appropriate modeling parameter. Mobile source emissions are generally calculated as follows:

Mobile Source:

Emissions [$MTCO_2e$] = ($\sum_i$ (VMT × $EF_{Pollutant}$ × GWP)$_i$) ÷ 2204.6

Where:	VMT	=	Vehicle miles traveled
	$EF_{Pollutant}$	=	EMFAC Fleet emissions factor [pounds per mile]
	GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
	2204.6	=	Conversion factor [pounds/MT]
	i	=	Summation index

2.2.5 Emissions from Stationary Sources

Stationary sources included diesel-fueled emergency generator, estimated to be up to approximately a 250 kilowatt (kW) in size, that would be installed at the Project Site. The generator emissions were based on emission factors from SCAQMD's Rule 1470 and USEPA.

Emissions associated with periodic maintenance and testing of the emergency generator (approximately rated at 250 kilowatts (335 horsepower) for the Project are estimated separately outside of the CalEEMod software. The emergency generator emissions are calculated based on compliance with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) mandated emission limits and operating hour constraints. As discussed previously, Rule 1470 applies to stationary compression ignition engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing. In general, stationary-source emergency generator emissions are calculated as follows:

Stationary Source Emergency Generator:

$Emissions_{Diesel}$ [$MTCO_2e$] = ($\sum_i$ (EF × Pop × HP × Load × Activity × GWP)$_i$) ÷ 10^6

Where:	EF	=	Emission factor [g/bhp-hr]
	Pop	=	Population [quantity of same equipment type]
	HP	=	Maximum rated horsepower [hp]
	Load	=	Load Factor [dimensionless]
	Activity	=	Hours of operation [hours per day, hours per year]
	GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
	10^6	=	Conversion factor [g/MT]
	i	=	Summation index

2.2.6 Emissions from Restaurant Charbroiling

There are no GHG emissions associated with charbroiling. Therefore, GHG emissions are not required to be estimated for charbroiling.

2.2.7 Solid Waste Decomposition Emissions

The Project would generate solid waste from day-to-day operational activities, which generally consists of product packaging, landscape clippings, furniture, clothing, bottles, food scraps, newspapers, plastic, and other items routinely disposed of in trash bins. A portion of the waste is diverted to waste recycling and reclamation facilities. Waste that is not diverted is usually sent to local landfills for disposal. Waste that is disposed in landfills results in GHG emissions of CO_2 and CH_4 from the decomposition of the waste that occurs over the span of many years.

Emissions of GHGs associated with solid waste disposal under the Project are calculated using the CalEEMod software. The emissions are based on the size of the Project land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHGs emitted. Annual waste disposal GHG emissions in units of $MTCO_2e$ are generally calculated in CalEEMod as follows:

Waste:

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_W \times EF_W \times GWP)_i \right) \div 1.1023$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_W	=	Waste disposal rate [tons/1000 sqft/year]
EF_W	=	GHG emission factor [tons/ton waste]
GWP	=	Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
1.1023	=	Conversion factor [tons/MT]
i	=	Summation index

CalEEMod allows the input of several variables to quantify solid waste emissions. The model requires the amount of waste disposed, which is the product of the waste disposal rate times the land use units. The total amount of waste disposed was reduced by the diversion rate for the City of Los Angeles of 76 percent, according to the most recent data available.[10] The GHG emission factors, particularly for CH_4, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery) are statewide averages and are used in this assessment. Solid waste emissions are constant for the two Project scenarios.

2.2.8 Water Demand and Wastewater Generation and Treatment Emissions

Water and wastewater generated from the land uses under the Project would require energy to supply, distribute and treat. The combustion of fossil fuels to produce electricity results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The electricity generation occurs off-site; therefore, the electricity use from water and wastewater results in GHG emissions that are considered to be indirect. Wastewater also results in emissions of GHGs from wastewater

[10] City of Los Angeles, Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013, https://bioenergyproducers.files.wordpress.com/2016/11/la-zero-waste-report.pdf. Accessed January 2018.

treatment systems (e.g., septic, aerobic, or lagoons) as well as from solids that are digested either through an anaerobic digester or with co-generation from combustion of digester gas.

The emissions of GHGs associated with wastewater treatment process emissions are also calculated using CalEEMod. The emissions are based on the type of treatment (e.g., aerobic, facultative lagoons, septic systems). The emissions are calculating using the default settings in CalEEMod for the type of wastewater treatment and water usage rates. Calculation formulas are described in detail in the *California Emissions Estimator Model User's Guide, Appendix A*.[11] Annual water demand and wastewater GHG emissions due to electricity are generally calculated in CalEEMod as follows for indoor and outdoor water demand:

Water Supply, Treatment, and Distribution; Wastewater Treatment (electricity):

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_W \times (EI_W \div 1000) \times EF_W \times GWP)_i \right) \div 2204.62$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_W	=	Water demand factor [million gallons (Mgal)/1000 sqft/year]
EI_W	=	Electricity intensity factor [kilowatt-hours (kWh)/Mgal]
1000	=	Conversion factor [kWh/MWh]
EF_W	=	GHG emission factor [pounds/MWh]
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

The CEC's estimate for energy intensity of the water use cycle in Southern California, as provided in the 2006 CEC report *Refining Estimates of Water-Related Energy Use in California*, is used to calculate the energy usage related to water supply, treatment, and distribution and wastewater treatment.[12] The same electricity GHG emissions factors discussed above for building electricity are used for water and wastewater energy usage.

As stated in the *User's Guide*, the GHGs emitted from each type of wastewater treatment are based on the CARB's *Local Government Operations Protocol* (LGOP),[13] which are in turn based on USEPA methodologies.[14] The default CalEEMod settings for wastewater treatment are: 10.33 percent septic tank, 87.46 percent aerobic, 2.21 percent facultative lagoons and 100 percent anaerobic combustion of gas. Refer to Section IV.N-1, *Utilities and Service Systems – Water, Wastewater and Solid Waste*, of the Project's Draft EIR for the estimated water usage rate for the Project.

11 California Air Pollution Control Officers Association, California Emissions Estimator Model User's Guide, 2017.

12 California Energy Commission, Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118, 2006.

13 California Air Resources Board, Local Government Operations Protocol, Chapter 10: Wastewater Treatment Facilities, 2008.

14 United States Environmental Protection Agency, Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006, Chapter 8: Waste, 2008.

2.3 No Action Taken (NAT) Scenario Emissions

The emissions reduction measures discussed within CARB's Climate Change Scoping Plan, SCAG's 2016-2040 RTP/SCS, Sustainable City pLAn, the Green LA Plan, the LA Green Building Code are applicable to the Project. In addition, the Project would voluntarily meet the requirements of the Jobs and Economic Improvement Through Environmental Leadership Act (the Act) and provide or obtain GHG emission offsets as required to achieve no net increase in GHG emissions. These plans and policies are intended to reduce GHG emissions in order to meet the targets of the States GHG reduction mandates under AB 32 and SB 32. In order to demonstrate the efficacy of the measures required under these applicable GHG reduction plans and policies in reducing the Project's incremental contribution of GHG emission, and thereby provide further justification that the Project is consistent with plans adopted for the reduction or mitigation of GHG emissions, this analysis compares the Project's GHG emissions to the emissions that would have been generated by the Project in the absence of GHG emission reduction Project features and characteristics (the no action taken or "NAT" scenario). This approach mirrors the concepts used in CARB's Climate Change Scoping Plan for achieving the State's GHG emissions reductions goals in Assembly Bill 32 and Senate Bill 32, as codified in Health and Safety Code Division 25.5. This methodology is used to assess the Project's consistency with the applicable GHG reduction plans and policies and to demonstrate the efficacy of the measures contained therein, but it is not used as a threshold of significance.

Evaluating the Project's reduction in GHG emissions against the NAT scenario requires providing a quantitative estimate of GHG emissions based on the specific circumstances of the Project in the context of relevant State activities and mandates. This requires the following two GHG emissions inventories:

- NAT scenario GHG emissions; and
- "As proposed" Project GHG emissions with Project Design Features and Project Characteristics.

The analysis in this section includes potential GHG emissions under the NAT scenario and from the Project at buildout based on State actions and mandates expected to be in force by the Project's anticipated opening year of 2022 (e.g., Pavley I and II Standards, implementation of California's Statewide Renewables Portfolio Standard beyond current levels of renewable energy, and the California LCFS). Measures identified in the Climate Change Scoping Plan that have not been approved or for which regulations have not yet been adopted were not credited in this analysis (e.g., implementation of Mobile Source Strategy-Cleaner Technology and Fuels). Similarly, emissions reductions related to cap-and-trade were not included in this analysis. By not speculating on potential regulatory conditions, the analysis takes a conservative approach that likely overestimates the Project's GHG emissions at buildout.

The NAT scenario is used to enable a comparison with Project-generated GHG emissions under the "as proposed" scenario. The NAT scenario does not consider site-specific conditions or Project Design Features. As an example, GHG emissions from water and wastewater due to the energy needed for supply, treatment and distribution under the NAT scenario do not account for

Project Design Feature PDF-AQ-1, which would incorporate features that would reduce Project indoor water usage by a minimum of 20 percent and outdoor water usage by a minimum of 20 percent. Instead, the NAT scenario considers the Project without water use reduction features. Mobile source emissions under the NAT scenario would not incorporate the VMT reduction of approximately 29 percent (based on the calculation protocol from the CAPCOA guidance for land use characteristics LUT-1 through LUT-5 and SDT-1). [15]

GHG emissions related to energy use under the NAT scenario were calculated based on complying with the minimum performance level required under Title 24.

By contrast, the "as proposed" scenario emissions calculations for the Project include credits or reductions for applicable regulatory requirements and for the Project Design Features and Project Characteristics set forth in Section 3 below, such as reductions in energy, solid waste generation, and water demand. In addition, as mobile source GHG emissions are directly dependent on the number of vehicle trips and VMT, a decrease in the number of Project-generated trips and VMT as a result of Project Design Features and land use characteristics would provide a proportional reduction in mobile source GHG emissions.

2.4 Existing Operational Emissions

For the purposes of this analysis, no existing operational greenhouse gas emissions are assumed from the existing site and the Project's greenhouse gas emissions are conservatively considered to be net new operational emissions.

2.5 Comparison of Project Characteristics to Applicable Plans and Policies

The Project's GHG emissions are also evaluated by assessing the Project's consistency with applicable state, regional, and local GHG reduction strategies such as the CARB's Climate Change Scoping Plan, SB 375, and City of Los Angeles plans (Green LA Plan, Sustainable City pLAn). These plans and policies are intended to reduce GHG emissions in accordance with California's near-term and long-term climate policies and goals.

The State CEQA Guidelines encourage lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. As discussed previously, the City has established goals and actions to reduce the emission of GHGs from both public and private activities in the Green LA Plan and the Sustainable City pLAn. While the City does not have a programmatic mitigation plan to tier from, such as a Greenhouse Gas Emissions Reduction Plan as recommended in the relevant amendments to the State CEQA Guidelines, the City has adopted the Green LA Plan, Sustainable City pLAn, and LA Green Building Code, which encourage and require applicable projects to implement energy efficiency measures. Thus, if a project is designed in accordance with these policies and regulations, it

15 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010, p. 182, http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf .

would result in a less than significant impact, because it would be consistent with the overarching State regulations on GHG reduction codified under Health and Safety Code Division 25.5.

3. Project Characteristics

The Project is an urban "infill" project, as it would replace existing commercial and manufacturing uses on underutilized parcels located in Downtown Los Angeles with a high-density, mixed-use development. The Project proposes higher density, consistent with compact growth, on a parcel of infill urban land accessible to and well served by public transit including frequent and comprehensive transit services. The Project's new housing and job growth would be located in a high-quality transit area (HQTA), which the Southern California Association of Governments (SCAG) defines as an area within a half mile of a well-serviced transit stop,[16] and a transit priority area (TPA), which the City defines as an area means an area within one-half mile of a major transit stop that is existing or planned.[17] The Project's Urban location setting and its land use characteristics, as identified by the California Air Pollution Control Officers Association (CAPCOA), of Increased Density, Location Efficiency, Increased Land Use Diversity and Mixed-Uses, Increased Destination Accessibility, Increased Transit Accessibility, Improve Design of Development, and Provide Pedestrian Network Improvements demonstrate that the Project developed at the Project Site would result in reduced vehicle trips, VMT, and associated transportation-related GHG emissions, as well as air pollutant emissions, compared to the statewide and South Coast Air Basin averages for land use development vehicle trips, VMT, and associated emissions. Refer to the CAPCOA guidance on mitigating or reducing emissions from land use development projects, *Quantifying Greenhouse Gas Mitigation Measures*, for further information on VMT reductions from urban land use characteristics.[18]

The Project would be designed to meet the standards for the USGBC LEED standards through the incorporation of green building techniques and other sustainability features such as low albedo color paving and drought-tolerant landscaping. Key Project Design Features that would contribute to energy efficiencies include stormwater retention; use of high efficiency fixtures and appliances, water conservation features; recycling of solid wastes, and not including the use of natural gas fireplaces in the residential units. The Project would also provide bicycle parking and preferred parking for fuel efficient or electric vehicles.

The following Project Design Features (PDFs) would be incorporated into the Project:

[16] Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2016, page 8, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf. Accessed June 2018.

[17] City of Los Angeles, Department of City Planning, Zoning Information File ZI NO. 2451 Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking within TPAs Pursuant to CEQA, https://files.alston.com/files/docs/ZI%202451-TPA-Aesthetics-and-Parking.pdf. Accessed October 2018.

[18] California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010), http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed August 2018.

PDF-AQ-1: Green Building Measures: The Project will be designed and operated to exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code.

Green building measures will include, but are not limited to the following:

- The Project will be designed to optimize energy performance and reduce building energy cost by a minimum of 5 percent for new construction compared to the Title 24 Building Energy Efficiency Standards (2016).

- The Project will be designed to optimize energy performance and reduce building energy cost by installing energy efficient appliances that meet the USEPA ENERGY STAR rating standards or equivalent.

- The Project will provide a minimum of 30 kilowatts of photovoltaic panels on the Project Site, unless additional kilowatts of photovoltaic panels become feasible due to additional area being added to the Project Site.

- The Project will reduce outdoor potable water use by a minimum of 20 percent compared to baseline water consumption. Reductions would be achieved through drought-tolerant/California native plant species selection, irrigation system efficiency, alternative water supplies (e.g., stormwater retention for use in landscaping), and/or smart irrigation systems (e.g., weather-based controls).

- The Project will reduce indoor potable water use by a minimum of 20 percent compared to baseline or standard water consumption by installing water fixtures that exceed applicable standards.

- The Project would not include fireplaces in the residential buildings.

PDF-GHG-1: GHG Emission Offsets: The Project will provide or obtain GHG emission offsets as required in the Project's Environmental Leadership Development Project certification and related documentation pursuant to the Jobs and Economic Improvement Through Environmental Leadership Act.

PDF-GHG-2: At least 20 percent of the total code-required parking spaces provided for all types of parking facilities shall be capable of supporting future electric vehicle supply equipment (EVSE). Plans shall indicate the proposed type and location(s) of EVSE and also include raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all electric vehicles at all designated EV charging locations at their full rated amperage. Plan design shall be based upon Level 2 or greater EVSE at its maximum operating capacity. Only raceways and related components are required to be installed at the time of construction. When the application of the 20-percent requirement results in a fractional space, round up to the next whole number. A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and next to the raceway termination point.

PDF-GHG-3: At least 5 percent of the total code-required parking spaces shall be equipped with EV charging stations. Plans shall indicate the proposed type and location(s) of charging stations. Plan design shall be based on Level 2 or greater EVSE

at its maximum operating capacity. When the application of the 5-percent requirement results in a fractional space, round up to the next whole number.

4. Emissions Summaries

4.1 Project Construction Emissions

The results of the construction GHG emissions calculations are presented in **Table 1,** *Estimated Construction Greenhouse Gas Emissions*.

TABLE 1
ESTIMATED CONSTRUCTION GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b,c]
Construction Year 1	1,361
Construction Year 2	759
Total	2,120
Amortized Over 30 Years	71

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A of this Technical Appendix.

[b] CO_2e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report. Emissions differ from the analysis conducted for the Environmental Leadership Development Project (ELDP) certification for the following reasons: On-road mobile source emissions for the Draft EIR utilize the EMFAC2017 model, which was approved by the USEPA in 2019.

[c] The analysis conservatively assumes the NAT construction emissions are the same as the Project, since it is a comparable project of the same size and land uses with similar construction activities. Construction GHG emissions are amortized over 30 years and included in the operational GHG emissions.

Source: ESA, 2019.

4.2 Project Operational Emissions

The Project's maximum annual GHG emissions resulting from motor vehicles, energy (i.e., electricity, natural gas), water conveyance, and waste sources were calculated based on the expected opening year in 2022. The maximum opening year GHG emissions from operation of the Project are shown in **Table 2**, *Estimated Combined Amortized Construction and Operational NAT Scenario and Project Scenario Opening Year GHG Emissions*. Details regarding the calculation of the Project operational emissions are provided in **Exhibits B** and **C** of this Technical Appendix. The emissions presented in Table 2 do not account for existing emissions from the existing site uses. Therefore, the Project's net GHG emissions would be lower than the total value shown in Table 2. Furthermore, in accordance with PDF-GHG-1, the Project will provide or obtain GHG emission offsets as required in the Project's Environmental Leadership Development Project certification and related documentation pursuant to the Jobs and Economic Improvement Through Environmental Leadership Act to achieve no net increase in GHG emissions.

TABLE 2
ESTIMATED COMBINED AMORTIZED CONSTRUCTION AND OPERATIONAL NAT AND PROJECT SCENARIO OPENING YEAR GHG EMISSIONS

	Project CO_2e (Metric Tons per Year) [a]		
Emissions Sources	**Project NAT Scenario - Without GHG Reduction Characteristics, Features, and Measures [b]**	**Proposed Project [b]**	**Percent Reduction**
Project Opening Year			
Electricity	761	734	4%
Natural Gas	323	315	2%
Mobile Sources	2,547	1,815	29%
EV Charging Stations	10	10	-
Solid Waste	72	72	-
Water and Wastewater	135	108	20%
Area [c]	54	4	93%
Emergency Generator	7	7	-
Total Operational	**3,909**	**3,063**	**22%**
Amortized Construction Emissions	71	71	-
Total Emissions	**3,980**	**3,134**	**21%**

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibits B and C of this Technical Appendix.

[b] CO_2e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report. Emissions differ from the analysis conducted for the Environmental Leadership Development Project (ELDP) certification for the following reasons: On-road mobile source emissions for the Draft EIR utilize the City's VMT Calculator Tool which provides more accurate VMT estimates for locations in the City as compared to the methodology used in the ELDP analysis and the EMFAC2017 model, which was approved by the USEPA in 2019; Area source emissions for the Draft EIR take into account the prohibition of hearths in residential units (PDF-AQ-1).

[c] Proposed Project area source emissions were adjusted to exclude natural gas-fueled fireplaces per PDF-AQ-1.

Source: ESA, 2019.

Exhibit A
Project Construction Emissions

ESA

A-1 Summary of Assumptions

6220 West Yucca Street Mixed Use Project
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

Project Information

Land Use	CalEEMod Land Use Type	Units			
Residential	High-rise Apartment	210	DU	242,285	sf
Recreational	Hotel	136	rooms	80,335	sf
Retail	Strip Mall	3.5	KSF	3,450	sf
Recreational	Restaurant	9.1	KSF	9,050	sf
Parking	Unenclosed Parking with Elevator	232	spaces	100,483	sf
Parking	Enclosed Parking with Elevator	206	spaces	89,222	sf
Pool/Deck/Spa	Recreational Swimming Pool	4.8	KSF	4,840	sf
Fitness Center	Health Club	2.5	KSF	2,530	sf
Other Open Space/Amenities	City Park	18.5	KSF	18,535	sf
Total Building Area (excluding parking and open space)				335,120	sf
Total Lot Area (acres)/Developed Area (sf)		1.16	acres		

Note:

a. California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014 with 2010 Census Benchmark, http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php. Accessed September 2014.

Source: 6220 West Yucca Design Plans, prepared by Togawa Smith Martin 2016.

Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Demo (CY)	Demo Truck Capacity (CY)	Demo Truck Total One-Way Trips	Demo Truck Daily One-Way Trips	Soil Export (CY)	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Soil Haul Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day [a]	Worker One-Way Trips/Max Day [b]
Demolition	1/1/2018	1/21/2018	15	5,000	10	1,000	67						6	18
Site Preparation	1/22/2018	1/31/2018	8											18
Grading/Excavation	2/1/2018	5/31/2018	86					120,000	-	14	17,200	200	6	20
Building Construction 1	6/1/2018	6/30/2019	281										73	280
Building Construction 2	7/1/2019	10/31/2019	89										73	280
Paving	9/1/2019	12/31/2019	87											18
Architectural Coating	7/1/2019	10/31/2019	89											56

Notes:

a. Vendor trips are associated with the Building Construction phase and are based on CalEEMod assumptions.

b. Worker trips are based on CalEEMod assumptions.

Source: ESA 2019.

6220 West Yucca Street Mixed Use Project
Air Quality and Greenhouse Gas Assessment

Construction Assumptions - Demolition

Demolition Schedule				**Notes**
Start Date	1/1/2018			
End Date	1/21/2018			
Work Days	15			

Demolition Quantities

Land Use	**Amount**	***Units***		
6220-6224 Yucca	27.0	*KSF*		Estimate from Google Earth, two story multi-family
6210-6216 Yucca	16.0	*KSF*		Estimate from Google Earth, two story multi-family
1765-1779 Vista del Mar	5.3	*KSF*		Estimate from Google Earth, single story and two story single-family
Total	**48.3**	*KSF*		
Total (rounded up)	**50.0**		<-------	**ENTER VALUE INTO CALEEMOD**

Demolition Volume

Total Area (KSF)	50			
Floor Height (ft)	10			Assumed
Building Volume (ft3)	500,000			
Building Volume (CY)	18,519			
Debris Volume (CY)	5,000	*(rounded, estimated)*		Rounded, 1 CY building volume = 0.25 CY waste volume
Truck Size (CY)	10			
Total One-way Truck Trips	**1,000**	*(rounded, estimated)*	<-------	**ENTER VALUE INTO CALEEMOD**
Daily One-way Truck Trips	67	*trips/day*		

6220 West Yucca Street Mixed Use Project
Air Quality and Greenhouse Gas Assessment

Construction Assumptions - Excavation

Demolition Schedule

Start Date	2/1/2018
End Date	5/31/2018
Duration (days)	86

Estimated Soil Excavation

Land Use	Height	Area		Resulting Volume		Soil Export
Loading Area	15 feet	1.0	KSF =	18,150 ft3	=	672 CY
Building 1 Sub Parking	11 feet	108.0	KSF =	1,437,480 ft3	=	53,240 CY
Building 2 Sub Parking	11 feet	7.0	KSF =	93,170 ft3	=	3,451 CY
Foundation	20 feet	48.0	KSF (footprint) =	1,161,600 ft3	=	43,022 CY
Total						**100,385 CY**
Total with 10% Contingency Added						**110,424 CY**

Total Soil Export (CY)	**120,000**	*(rounded, estimated)*	<-------	**ENTER VALUE INTO CALEEMOD**
Truck Size (CY)	**14**			
Total One-way Truck Trips	**17,200**		<-------	**ENTER VALUE INTO CALEEMOD**
Daily One-way Truck Trips	200	*trips/day*		

6220 Yucca
Air Quality Assessment

Localized Significance Thresholds
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 1
Adjacent to Offsite Receptors (i.e., within 25 meters)

	Screening Values		Project Site [a]
Acres	1	2	1.16
Construction LSTs			
NOX	74	108	**79**
CO	680	1,048	**739**
PM10	5	8	**5.5**
PM2.5	3	5	**3.3**
Operational LSTs			
NOX	74	108	**79**
CO	680	1,048	**739**
PM10 [b]	2	2	**2.1**
PM2.5	1	2	**1.2**

Notes:

a. Project screening levels are linearly interpolated based on the 1- and 2- acre acreening levels.

b. The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 1.16-acre site with sensitive receptors conservatively assumed to be located adjacent to the construction area.

A-2 Construction Emissions Summary

Yucca Mixed Use EIR
Construction GHG Emissions

	Metric Tons/Year			
	CalEEMod (On-site, Workers)	**Construction Truck Emissions**	**Subtotal**	**Total**
2018	613.73	747.29	1,361.03	1,361.03
2019	582.27	176.73	759.00	759.00

Total	2,120.03
Amortized	70.67

Source: ESA, 2019

A-3 CalEEMod Output Files

6220 W Yucca Street Project - Construction

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	210.00	Dwelling Unit	0.35	242,285.00	601
Hotel	136.00	Room	0.21	80,335.00	0
Strip Mall	3.45	1000sqft	0.05	3,450.00	0
Quality Restaurant	9.05	1000sqft	0.10	9,050.00	0
Enclosed Parking with Elevator	206.00	Space	0.10	89,222.00	0
Unenclosed Parking with Elevator	232.00	Space	0.10	100,483.00	0
City Park	0.60	Acre	0.10	18,535.00	0
Recreational Swimming Pool	4.84	1000sqft	0.10	4,840.00	0
Health Club	2.53	1000sqft	0.05	2,530.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	595	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects (Jan 2017).

Land Use - Multi-Fam (210 DU); Hotel (136 rooms); Retail (3.45 ksf); Rest. (9.05 ksf); Pool (4.84 ksf); Fitness (2.53 ksf); Open Space (25.905 ksf); Parking (~232 above, ~206 below). Pop.=2.03/DU (Hollywood CPA, 426 people).

Construction Phase - Refer to "Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Grading -

Demolition -

Trips and VMT - Refer to "Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs" worksheet.

Construction Off-road Equipment Mitigation - Tier 3+DPF Equipment; Tier 4 Equipment (for equipment 90 HP and greater); Water Unpaved Roads and Exposed Areas 3 X Daily; Limit On-Site Speed to 15 MPH or less.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	89.00
tblConstructionPhase	NumDays	200.00	281.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	4.00	86.00
tblConstructionPhase	NumDays	10.00	87.00
tblConstructionPhase	NumDays	2.00	8.00
tblConstructionPhase	NumDays	200.00	89.00
tblConstructionPhase	PhaseEndDate	12/10/2018	10/31/2019
tblConstructionPhase	PhaseEndDate	11/12/2018	6/30/2019
tblConstructionPhase	PhaseEndDate	1/26/2018	1/21/2018
tblConstructionPhase	PhaseEndDate	2/5/2018	5/31/2018
tblConstructionPhase	PhaseEndDate	11/26/2018	12/31/2019
tblConstructionPhase	PhaseEndDate	1/30/2018	1/31/2018
tblConstructionPhase	PhaseStartDate	11/27/2018	7/1/2019
tblConstructionPhase	PhaseStartDate	2/6/2018	6/1/2018

tblConstructionPhase	PhaseStartDate	1/31/2018	2/1/2018
tblConstructionPhase	PhaseStartDate	11/13/2018	9/1/2019
tblConstructionPhase	PhaseStartDate	1/27/2018	1/22/2018
tblGrading	MaterialExported	0.00	120,000.00
tblLandUse	LandUseSquareFeet	210,000.00	242,285.00
tblLandUse	LandUseSquareFeet	197,472.00	80,335.00
tblLandUse	LandUseSquareFeet	82,400.00	89,222.00
tblLandUse	LandUseSquareFeet	92,800.00	100,483.00
tblLandUse	LandUseSquareFeet	26,136.00	18,535.00
tblLandUse	LotAcreage	3.39	0.35
tblLandUse	LotAcreage	4.53	0.21
tblLandUse	LotAcreage	0.08	0.05
tblLandUse	LotAcreage	0.21	0.10
tblLandUse	LotAcreage	1.85	0.10
tblLandUse	LotAcreage	2.09	0.10
tblLandUse	LotAcreage	0.60	0.10
tblLandUse	LotAcreage	0.11	0.10
tblLandUse	LotAcreage	0.06	0.05
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	595
tblProjectCharacteristics	OperationalYear	2018	2020
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2018	3-31-2018	3.0475	1.6724
2	4-1-2018	6-30-2018	2.7820	1.6908
3	7-1-2018	9-30-2018	0.9563	0.5659
4	10-1-2018	12-31-2018	0.9656	0.5752
5	1-1-2019	3-31-2019	0.8718	0.5312
6	4-1-2019	6-30-2019	0.8733	0.5290
7	7-1-2019	9-30-2019	1.6665	1.4326
		Highest	3.0475	1.6908

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/21/2018	5	15	
2	Site Preparation	Site Preparation	1/22/2018	1/31/2018	5	8	
3	Grading	Grading	2/1/2018	5/31/2018	5	86	
4	Building Construction 1	Building Construction	6/1/2018	6/30/2019	5	281	
5	Paving	Paving	9/1/2019	12/31/2019	5	87	
6	Architectural Coating	Architectural Coating	7/1/2019	10/31/2019	5	89	
7	Building Construction 2	Building Construction	7/1/2019	10/31/2019	5	89	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 86

Acres of Paving: 0.2

Residential Indoor: 490,627; Residential Outdoor: 163,542; Non-Residential Indoor: 143,048; Non-Residential Outdoor: 47,683; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction 1	Generator Sets	1	8.00	84	0.74
Building Construction 1	Cranes	0	6.00	231	0.29
Building Construction 1	Forklifts	3	6.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	2	6.00	130	0.42
Paving	Rollers	2	7.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40

Building Construction 1	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	0	6.00	187	0.41
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	7.00	247	0.40
Building Construction 1	Welders	0	8.00	46	0.45
Building Construction 2	Cranes	0	6.00	231	0.29
Building Construction 2	Forklifts	0	6.00	89	0.20
Building Construction 2	Generator Sets	1	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction 2	Welders	0	8.00	46	0.45
Demolition	Excavators	1	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Scrapers	1	8.00	367	0.48
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction 1	Other Construction Equipment	1	8.00	172	0.42

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	56.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	6	280.00	73.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	18.00	6.00	1,000.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	6.00	17,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	2	280.00	73.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0246	0.0000	0.0246	3.7300e-003	0.0000	3.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2708	0.1428	2.4000e-004		0.0145	0.0145		0.0133	0.0133	0.0000	21.6245	21.6245	6.7300e-003	0.0000	21.7928
Total	**0.0257**	**0.2708**	**0.1428**	**2.4000e-004**	**0.0246**	**0.0145**	**0.0391**	**3.7300e-003**	**0.0133**	**0.0171**	**0.0000**	**21.6245**	**21.6245**	**6.7300e-003**	**0.0000**	**21.7928**

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					
Worker	7.2000e-004	5.9000e-004	6.3100e-003	2.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.4222	1.4222	5.0000e-005	0.0000	1.4234
Total	**5.5200e-003**	**0.1687**	**0.0393**	**4.3000e-004**	**0.0104**	**6.6000e-004**	**0.0110**	**2.8300e-003**	**6.4000e-004**	**3.4700e-003**	**0.0000**	**41.3356**	**41.3356**	**2.9800e-003**	**0.0000**	**41.4102**

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					9.6000e-003	0.0000	9.6000e-003	1.4500e-003	0.0000	1.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-003	0.0126	0.1396	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	21.6245	21.6245	6.7300e-003	0.0000	21.7928
Total	**2.9000e-003**	**0.0126**	**0.1396**	**2.4000e-004**	**9.6000e-003**	**3.9000e-004**	**9.9900e-003**	**1.4500e-003**	**3.9000e-004**	**1.8400e-003**	**0.0000**	**21.6245**	**21.6245**	**6.7300e-003**	**0.0000**	**21.7928**

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					
Worker	7.2000e-004	5.9000e-004	6.3100e-003	2.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.4222	1.4222	5.0000e-005	0.0000	1.4234

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.1740	0.0833	1.4000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	12.7335	12.7335	3.9600e-003	0.0000	12.8326

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					
Worker	3.8000e-004	3.1000e-004	3.3700e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7585	0.7585	3.0000e-005	0.0000	0.7592

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	1.7100e-003	7.3900e-003	0.0777	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.7334	12.7334	3.9600e-003	0.0000	12.8326

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					
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

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2398	0.0000	0.2398	0.1117	0.0000	0.1117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1633	1.8888	1.1411	2.2800e-003		0.0835	0.0835		0.0769	0.0769	0.0000	207.9049	207.9049	0.0647	0.0000	209.5230
Total	**0.1633**	**1.8888**	**1.1411**	**2.2800e-003**	**0.2398**	**0.0835**	**0.3234**	**0.1117**	**0.0769**	**0.1885**	**0.0000**	**207.9049**	**207.9049**	**0.0647**	**0.0000**	**209.5230**

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					
Worker	4.5600e-003	3.7400e-003	0.0402	1.0000e-004	9.4400e-003	8.0000e-005	9.5100e-003	2.5100e-003	7.0000e-005	2.5800e-003	0.0000	9.0600	9.0600	3.1000e-004	0.0000	9.0678

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					0.0935	0.0000	0.0935	0.0436	0.0000	0.0436	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0281	0.1216	1.2370	2.2800e-003		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	207.9047	207.9047	0.0647	0.0000	209.5228
Total	**0.0281**	**0.1216**	**1.2370**	**2.2800e-003**	**0.0935**	**3.7400e-003**	**0.0973**	**0.0436**	**3.7400e-003**	**0.0473**	**0.0000**	**207.9047**	**207.9047**	**0.0647**	**0.0000**	**209.5228**

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					
Worker	4.5600e-003	3.7400e-003	0.0402	1.0000e-004	9.4400e-003	8.0000e-005	9.5100e-003	2.5100e-003	7.0000e-005	2.5800e-003	0.0000	9.0600	9.0600	3.1000e-004	0.0000	9.0678

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1263	1.1922	0.9411	1.4100e-003		0.0763	0.0763		0.0717	0.0717	0.0000	125.8527	125.8527	0.0289	0.0000	126.5753
Total	**0.1263**	**1.1922**	**0.9411**	**1.4100e-003**		**0.0763**	**0.0763**		**0.0717**	**0.0717**	**0.0000**	**125.8527**	**125.8527**	**0.0289**	**0.0000**	**126.5753**

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					
Worker	0.1128	0.0926	0.9949	2.4800e-003	0.2335	1.9100e-003	0.2354	0.0620	1.7600e-003	0.0638	0.0000	224.1825	224.1825	7.6800e-003	0.0000	224.3744

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	0.0207	0.3947	2.3518	1.4100e-003		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	133.1818	133.1818	0.0312	0.0000	133.9615
Total	**0.0207**	**0.3947**	**2.3518**	**1.4100e-003**		**5.7600e-003**	**5.7600e-003**		**5.7600e-003**	**5.7600e-003**	**0.0000**	**133.1818**	**133.1818**	**0.0312**	**0.0000**	**133.9615**

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					
Worker	0.1128	0.0926	0.9949	2.4800e-003	0.2335	1.9100e-003	0.2354	0.0620	1.7600e-003	0.0638	0.0000	224.1825	224.1825	7.6800e-003	0.0000	224.3744

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0970	0.9283	0.7924	1.1900e-003		0.0574	0.0574		0.0539	0.0539	0.0000	105.6930	105.6930	0.0242	0.0000	106.2984
Total	**0.0970**	**0.9283**	**0.7924**	**1.1900e-003**		**0.0574**	**0.0574**		**0.0539**	**0.0539**	**0.0000**	**105.6930**	**105.6930**	**0.0242**	**0.0000**	**106.2984**

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					
Worker	0.0870	0.0694	0.7542	2.0400e-003	0.1981	1.5800e-003	0.1997	0.0526	1.4600e-003	0.0541	0.0000	184.2570	184.2570	5.7800e-003	0.0000	184.4015

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	0.0173	0.3246	1.9774	1.1900e-003		4.6600e-003	4.6600e-003		4.6600e-003	4.6600e-003	0.0000	111.8133	111.8133	0.0262	0.0000	112.4671
Total	**0.0173**	**0.3246**	**1.9774**	**1.1900e-003**		**4.6600e-003**	**4.6600e-003**		**4.6600e-003**	**4.6600e-003**	**0.0000**	**111.8133**	**111.8133**	**0.0262**	**0.0000**	**112.4671**

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					
Worker	0.0870	0.0694	0.7542	2.0400e-003	0.1981	1.5800e-003	0.1997	0.0526	1.4600e-003	0.0541	0.0000	184.2570	184.2570	5.7800e-003	0.0000	184.4015

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0647	0.6725	0.6542	1.0000e-003		0.0377	0.0377		0.0347	0.0347	0.0000	89.4566	89.4566	0.0283	0.0000	90.1642
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0647**	**0.6725**	**0.6542**	**1.0000e-003**		**0.0377**	**0.0377**		**0.0347**	**0.0347**	**0.0000**	**89.4566**	**89.4566**	**0.0283**	**0.0000**	**90.1642**

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					
Worker	3.7700e-003	3.0100e-003	0.0327	9.0000e-005	8.5900e-003	7.0000e-005	8.6600e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	7.9886	7.9886	2.5000e-004	0.0000	7.9948

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	tons/yr										MT/yr					
Off-Road	0.0147	0.1543	0.7552	1.0000e-003		2.4800e-003	2.4800e-003		2.4800e-003	2.4800e-003	0.0000	89.4565	89.4565	0.0283	0.0000	90.1641
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0147**	**0.1543**	**0.7552**	**1.0000e-003**		**2.4800e-003**	**2.4800e-003**		**2.4800e-003**	**2.4800e-003**	**0.0000**	**89.4565**	**89.4565**	**0.0283**	**0.0000**	**90.1641**

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					
Worker	3.7700e-003	3.0100e-003	0.0327	9.0000e-005	8.5900e-003	7.0000e-005	8.6600e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	7.9886	7.9886	2.5000e-004	0.0000	7.9948

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2264**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Worker	0.0120	9.5700e-003	0.1041	2.8000e-004	0.0273	2.2000e-004	0.0276	7.2600e-003	2.0000e-004	7.4600e-003	0.0000	25.4246	25.4246	8.0000e-004	0.0000	25.4446

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	1.2264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2264**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction 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					
Worker	0.0120	9.5700e-003	0.1041	2.8000e-004	0.0273	2.2000e-004	0.0276	7.2600e-003	2.0000e-004	7.4600e-003	0.0000	25.4246	25.4246	8.0000e-004	0.0000	25.4446

3.8 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0275	0.2461	0.2425	4.0000e-004		0.0153	0.0153		0.0148	0.0148	0.0000	34.4633	34.4633	4.5400e-003	0.0000	34.5768
Total	**0.0275**	**0.2461**	**0.2425**	**4.0000e-004**		**0.0153**	**0.0153**		**0.0148**	**0.0148**	**0.0000**	**34.4633**	**34.4633**	**4.5400e-003**	**0.0000**	**34.5768**

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					
Worker	0.0600	0.0479	0.5203	1.4100e-003	0.1367	1.0900e-003	0.1378	0.0363	1.0000e-003	0.0373	0.0000	127.1231	127.1231	3.9900e-003	0.0000	127.2227

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	7.1200e-003	0.1392	0.2587	4.0000e-004		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	34.4632	34.4632	4.5400e-003	0.0000	34.5767
Total	**7.1200e-003**	**0.1392**	**0.2587**	**4.0000e-004**		**1.5700e-003**	**1.5700e-003**		**1.5700e-003**	**1.5700e-003**	**0.0000**	**34.4632**	**34.4632**	**4.5400e-003**	**0.0000**	**34.5767**

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					
Worker	0.0600	0.0479	0.5203	1.4100e-003	0.1367	1.0900e-003	0.1378	0.0363	1.0000e-003	0.0373	0.0000	127.1231	127.1231	3.9900e-003	0.0000	127.2227

A-4 EMFAC2017 Construction Truck Emissions

Yucca
On-Road Construction Truck Regional Emissions

Construction Phase	Start Date	End Date	No. Work Days	Soil/ Material Export (CY) [a]	Soil/ Material Import (CY) [b]	Soil/ Material Haul Truck Capacity (CY)	Soil/ Material Haul Truck Total One-Way Trips	Soil/ Material Haul Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day	Haul or Vendor Days per Phase	One-Way Trip Distance (miles)
Demolition-Haul	1/1/2018	1/21/2018	15	5,000		10	1,000	67		15	20.0
Demolition-Vendor	1/1/2018	1/21/2018	15						6	15	6.9
Grading/Excavation-Haul	2/1/2018	5/31/2018	86	120,000		14	17,200	200		86	20.0
Grading/Excavation-Vendor	2/1/2018	5/31/2018	86						6	86	6.9
Building Construction 1-2018	6/1/2018	12/31/2018	152						73	152	6.9
Building Construction 1-2019	1/1/2019	6/30/2019	129						73	129	6.9
Building Construction 2	7/1/2019	10/31/2019	89						73	89	6.9

Notes:

a. Vendor trips are associated with the Building Construction phase and are based on CalEEMod assumptions.

Source: 6220 West Yucca Design Plans, prepared by Togawa Smith Martin 2016.

Yucca
On-Road Construction Truck Regional Emissions

On-Road Truck Regional Running Emissions

Construction Phase	Source	Year	Daily One-Way Truck Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Running Emissions Factor (grams/mile) CO2e	Regional Emissions CO2e (metric tons/year)
Demolition-Haul	T7 Single Construction	2018	67	15.00	8	20	1,641.35	32.99
Demolition-Vendor	MHDT/HHDT	2018	6	15.00	8	6.9	1,344.75	0.84
Grading/Excavation-Haul	T7 Single Construction	2018	200	86.00	8	20	1,641.35	564.62
Grading/Excavation-Vendor	MHDT/HHDT	2018	6	86.00	8	6.9	1,344.75	4.79
Building Construction 1-2018	MHDT/HHDT	2018	73	152.00	8	6.9	1,344.75	102.96
Building Construction 1-2019	MHDT/HHDT	2019	73	129.00	8	6.9	1,316.88	85.57
Building Construction 2	MHDT/HHDT	2019	73	89.00	8	6.9	1,316.88	59.03

On-Road Truck Idling Emissions

Construction Phase	Source	Year	Daily Number of Trucks	Haul Days per Year (days/year)	Work Hours per Day (hours/day)	Idling Time per Truck (minutes)	Idling Emissions Factor (grams/min) CO2e	Regional Emissions CO2e (metric tons/year)
Demolition-Haul	T7 Single Construction	2018	34	15.00	8	15	131.17	1.00
Demolition-Vendor	MHDT/HHDT	2018	3	15.00	8	15	260.68	0.18
Grading/Excavation-Haul	T7 Single Construction	2018	100	86.00	8	15	131.17	16.92
Grading/Excavation-Vendor	MHDT/HHDT	2018	3	86.00	8	15	260.68	1.01
Building Construction 1-2018	MHDT/HHDT	2018	37	152.00	8	15	260.68	21.99
Building Construction 1-2019	MHDT/HHDT	2019	37	129.00	8	15	265.52	19.01
Building Construction 2	MHDT/HHDT	2019	37	89.00	8	15	265.52	13.12

Yucca
On-Road Truck Emission Factors (Aggregate Model Year, Aggregate Speeds)

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2017, 2018, 2019, 2020
Season: Annual

						GREENHOUSE GASES (g/mile for RUNEX, g/min for IDLEX)							
Region	**CalYr**	**VehClass**	**MdlYr**	**Speed**	**Fuel**	**CO2_RUNEX**	**CO2_IDLEX**	**CH4_RUNEX**	**CH4_IDLEX**	**N2O_RUNEX**	**N2O_IDLEX**	**CO2e_RUNEX**	**CO2e_IDLEX**
South Coast AQMD	2017	T7 single construction	Aggregated	Aggregated	DSL	1587.75	119.57	0.0178	0.0039	0.2496	0.0188	1,662.57	125.27
South Coast AQMD	2018	T7 single construction	Aggregated	Aggregated	DSL	1567.54	125.22	0.0151	0.0037	0.2464	0.0197	1,641.35	131.17
South Coast AQMD	2019	T7 single construction	Aggregated	Aggregated	DSL	1543.25	128.98	0.0129	0.0036	0.2426	0.0203	1,615.87	135.11
South Coast AQMD	2020	T7 single construction	Aggregated	Aggregated	DSL	1520.43	154.64	0.0087	0.0029	0.2390	0.0243	1,591.87	161.96
South Coast AQMD	2017	HHDT/MHDT	Aggregated	Aggregated	DSL	1,308.71	243.20	0.0114	0.0049	0.2057	0.0382	1,370.30	254.71
South Coast AQMD	2018	HHDT/MHDT	Aggregated	Aggregated	DSL	1,284.35	248.90	0.0095	0.0049	0.2019	0.0391	1,344.75	260.68
South Coast AQMD	2019	HHDT/MHDT	Aggregated	Aggregated	DSL	1,257.76	253.52	0.0080	0.0048	0.1977	0.0399	1,316.88	265.52
South Coast AQMD	2020	HHDT/MHDT	Aggregated	Aggregated	DSL	1,235.13	260.79	0.0065	0.0048	0.1941	0.0410	1,293.15	273.13

Source: California Air Resources Board, EMFAC2017, http://www.arb.ca.gov/emfac/2017/. Accessed June 2019.

Exhibit B
Project Operational Emissions

ESA

B-1 Summary of Assumptions

6220 West Yucca Street Mixed Use Project
Draft Environmental Impact Report
Greenhouse Gas Assessment

Project Solid Waste Disposal Rates

Land Use	Project Units	Solid Waste Factor [a] (lbs/unit/day)	Solid Waste Before Diversion (tons/year)	Diversion Rate [b] (%)	Solid Waste After Diversion
Residential	210 DU	12.23	468.7	76%	112.5
Hotel [c]	156 DU	4	113.9	76%	27.3
Commercial/Restaurant	12.5 KSF	5	11.4	76%	2.7
Total Project					**142.6**

Notes:

a. Generation factors provided by the CalRecycle website: Estimated Solid Waste Generation Rates. Available https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates. Accessed January 2017.

b. City of Los Angeles, Zero Waste Progress Report, (March 2013) 3. According to the Report, the City achieved a landfill diversion rate of approximately 76% by year 2012.

c. Hotel suites count as 2 rooms. The hotel proposes to include 20 suites; therefore, the total number of rooms for solid waste generation purposes is 116 + 2*20 = 156.

Source: ESA 2017.

Project Solid Waste Greenhouse Gas Emissions

Refer to CalEEMod output files.

6220 West Yucca Street Project
Draft Environmental Impact Report
Greenhouse Gas Assessment

Project Water Demand Rates

Land Use	Units (DU, Rooms, or 1000 sqft)	Wastewater Generation [a] (gal/unit/day)	Water Demand [b] (120% factor) (gal/day)	Indoor Water Demand Rate (gal/year)	Outdoor Water Demand Rate (gal/year)	Indoor Water Reduction (%)	Reduced Indoor Water Demand Rate (gal/year)	Outdoor Water Reduction (%)	Reduced Outdoor Water Demand Rate (gal/year)
Multi-Family Residential	210		33,336	10,139,700	2,027,940	20%	8,111,760	20%	1,622,352
Studio	-	*75*	-						
One Bedroom	*104*	*110*	*13,728*						
Two Bedroom	*95*	*150*	*17,100*						
Three Bedroom	*11*	*190*	*2,508*						
Hotel [c]	156	120	22,464	6,832,800	1,366,560	20%	5,466,240	20%	1,093,248
Restaurant (seats)	509	30	18,324	5,573,550	1,114,710	20%	4,458,840	20%	891,768
Retail	3.45	25	104	31,481	6,296	20%	25,185	20%	5,037
Open Space (Bar/Public Table Area)	0.92	720	795	241,776	48,355	20%	193,421	20%	38,684
Spa (Fitness)	3.85	650	3,003	913,413	182,683	20%	730,730	20%	146,146
Parking Structure	189.71	20	4,553	-	1,661,816	-	-	20%	1,329,453
Total Water Demand				**23,732,720**	**6,408,360**		**18,986,176**		**5,126,688**

Notes:

a. Wastewater generation factors obtained from City of Los Angeles Bureau of Engineering, Sewer Capacity Availability Request (SCAR), dated January 10, 2017 and based on Los Angeles Department of Public Works, Bureau of Sanitation, Sewerage Facilities Charge Sewage Generation Factor for Residential and Commercial Categories, dated April 6, 2012. These factors do not account for water saving features incorporated into the Project.

b. Water demand rates are calculated based on the wastewater generation rates and increasing the factor by 20% to account for absorption, evaporation, consumption, irrigation, and other losses.

c. Hotel suites count as 2 rooms. The hotel proposes to include 20 suites; therefore, the total number of rooms for water demand purposes is 116 + 2*20 = 156.

Source: Southland Civil Engineering & Survey, LLP 2017; ESA 2017.

Project Water and Wastewater Greenhouse Gas Emissions

Refer to CalEEMod output files.

6220 Yucca
Air Quality Assessment

Localized Significance Thresholds
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 1
Adjacent to Offsite Receptors (i.e., within 25 meters)

	Screening Values		Project Site [a]
Acres	1	2	1.16
Construction LSTs			
NOX	74	108	**79**
CO	680	1,048	**739**
PM10	5	8	**5.5**
PM2.5	3	5	**3.3**
Operational LSTs			
NOX	74	108	**79**
CO	680	1,048	**739**
PM10 [b]	2	2	**2.1**
PM2.5	1	2	**1.2**

Notes:

a. Project screening levels are linearly interpolated based on the 1- and 2- acre acreening levels.

b. The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 1.16-acre site with sensitive receptors conservatively assumed to be located adjacent to the construction area.

PROPOSED PROJECT: 6220 West Yucca Street Mixed Use Project
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

PROPOSED PROJECT

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	

Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction = 28.75% Cap: 40%
(Includes double counting correction.)

Total LUT/SDT/PDT/TST VMT Reduction = 28.75% Cap: 35%

Land Use/Location Transportation Measures (65% Reduction Cap)

Total LUT % VMT Reduction = 27.29% Cap: 30%

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction = 0.63% Cap: 30%

Number of DU/acre: 181.0 A = 500%
Number of Jobs/acre: 99.0 A = 395%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap: 65%
Compact Infill LUT % VMT Reduction Cap: 30%
Suburban Center LUT % VMT Reduction Cap: 10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction = 0.00% Cap: 30%

Single family sqft:	-	a_1 = -
Multi-family sqft:	-	a_2 = -
Commercial sqft:	-	a_3 = -
Industrial sqft:	-	a_4 = -
Institutional sqft:	-	a_5 = -
Park sqft:	-	a_6 = -
Total sqft:	-	

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction = 9.67% Cap: 20%

Miles to downtown or job center: 6.2
(Average distance to: Hollywood, Beverly Hills, Century City, Downtown L.A., Westwood. These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5	Increase Transit Accessibility **(ACOUNTED FOR IN TRAFFIC STUDY)**	% VMT Reduction = Transit × B [not to exceed 30%] Transit = % project transit - % typical ITE transit % project transit = -50x + 38 [where x = 0 - 0.5 miles to transit] -4.4x + 15.2 [where x = 0.5 - 3 miles to transit] % typical ITE transit = 1.3% B = 0.67	% VMT Reduction = 16.21% Cap: 30% Miles to transit: 0.25 (Note: Only effective for 3 miles or less)
LUT-6	Integrated Affordable and Below Market Rate Housing	% VMT Reduction = 4% × % units BMR	% VMT Reduction = 0.00% % of units below market rate: 0.0% (Note: Only effective up to 30%)
LUT-7	Orient Project Toward Non-Auto Corridor	Not quantified separately; Assumed to be included in LUT-3 (If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)	
LUT-8	Locate Project near Bike Path/Bike Lanes	Not quantified separately; Assumed to be included in LUT-4 (If included in LUT-4, VMT reduction should be at least 0.625%)	
LUT-9	Improve Design of Development	% VMT Reduction = Intersections × B Intersections = % increase vs. typical ITE suburban = (Intersections per square mile of project - 36) / 36 B = 0.12	% VMT Reduction = 3.33% Intersections per square mile: 46 (Estimated based on count of intersections within 1 mile radius of project site.) (Note: Only effective up to 100)
Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)			**Total SDT % VMT Reduction = 2.00%** Cap: 5% without NEV Cap: 15% With NEV
SDT-1	Provide Pedestrian Network Improvements	VMT reduction based on urban/rural context and pedestrian accomodations	% VMT Reduction = 2.00% Pedestrian network on-site and connecting off-site (urban/suburban): X 2% Pedestrian network on-site (urban/suburban): 1% (Mark an "X" in one of the above)

B-2 Operational Emissions Summary

Yucca Mixed Use EIR

Greenhouse Gases - Operational Emissions

Summary of Estimated Annual GHG Emissions (CEQA Analysis)

Source	GHG Emissions MTCO2e
Project NAT	
Amortized Construction[1]	71
Stationary (Emergency Generator)	7
Area	54
Energy - Natural Gas	323
Energy - Electricity	761
EV Charging Stations	10
Waste	72
Water	135
Mobile	2,547
Project NAT Total GHG Emissions	**3,980**
Project	
Amortized Construction[1]	71
Stationary (Emergency Generator)	7
Area	4
Energy - Natural Gas	315
Energy - Electricity	734
EV Charging Stations	10
Waste	72
Water	108
Mobile	1,815
Project Total GHG Emissions	**3,134**

Notes:

1. Total construction-related GHG emissions amortized over 30 years, per SCAQMD guidance.

a Totals may not add up exactly due to rounding in the modeling calculations.

Source: ESA, 2019

B-3 CalEEMod Output Files

6220 W Yucca Street Project - Operations (Initial Year) - Area, Energy, Water, Waste

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	206.00	Space	0.10	89,222.00	0
Unenclosed Parking with Elevator	232.00	Space	0.10	100,483.00	0
City Park	0.60	Acre	0.10	18,535.00	0
Health Club	2.53	1000sqft	0.05	2,530.00	0
Hotel	136.00	Room	0.21	80,335.00	0
Quality Restaurant	9.05	1000sqft	0.10	9,050.00	0
Recreational Swimming Pool	4.84	1000sqft	0.10	4,840.00	0
Apartments High Rise	210.00	Dwelling Unit	0.35	242,285.00	426
Strip Mall	3.45	1000sqft	0.05	3,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	595	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects (Jan 2017).

Land Use - Multi-Fam (210 DU); Hotel (136 rooms); Retail (3.45 ksf); Rest. (9.05 ksf); Pool (4.84 ksf); Fitness (2.53 ksf); Open Space (25.905 ksf); Parking (~232 above, ~206 below). Pop.=2.03/DU (Hollywood CPA, 426 people).

Woodstoves - Assumes residential units equipped with natural gas hearths (210 DU) (SCAQMD Rule 445).

Energy Use - Adjusted for Title 24 (2016) compliance. According to CEC data, Title 24 (2016) standards are expected to result in energy savings of 5% non-residential and 28% residential over the 2013 standards.

Water And Wastewater - Refer to "Project Water Demand Rates" worksheet provided in this Appendix.

Solid Waste - Refer to "Project Solid Waste Disposal Rates" worksheet provided in this Appendix.

Area Mitigation -

Energy Mitigation - Exceed Title 24 by 5% per PDF. Energy efficient appliances (e.g., ENERGY STAR qualified).

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	741.44	533.84
tblEnergyUse	LightingElect	0.00	2.50
tblEnergyUse	LightingElect	2.63	2.50
tblEnergyUse	LightingElect	3.20	3.04
tblEnergyUse	LightingElect	2.20	2.09
tblEnergyUse	LightingElect	8.13	7.72
tblEnergyUse	LightingElect	0.00	3.04
tblEnergyUse	LightingElect	6.43	6.11
tblEnergyUse	LightingElect	2.63	2.50
tblEnergyUse	T24E	194.04	139.71
tblEnergyUse	T24E	3.92	3.72
tblEnergyUse	T24E	2.36	2.24
tblEnergyUse	T24E	2.68	2.55
tblEnergyUse	T24E	8.50	8.08
tblEnergyUse	T24E	4.20	3.99
tblEnergyUse	T24NG	6,328.91	4,556.82
tblEnergyUse	T24NG	13.71	13.02
tblEnergyUse	T24NG	20.02	19.02
tblEnergyUse	T24NG	43.19	41.03
tblEnergyUse	T24NG	0.00	13.02
tblEnergyUse	T24NG	1.16	1.10

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	178.50	210.00
tblFireplaces	NumberNoFireplace	21.00	0.00
tblFireplaces	NumberWood	10.50	0.00
tblLandUse	BuildingSpaceSquareFeet	82,400.00	89,222.00
tblLandUse	BuildingSpaceSquareFeet	92,800.00	100,483.00
tblLandUse	BuildingSpaceSquareFeet	0.00	18,535.00
tblLandUse	BuildingSpaceSquareFeet	197,472.00	80,335.00
tblLandUse	BuildingSpaceSquareFeet	0.00	4,840.00
tblLandUse	BuildingSpaceSquareFeet	210,000.00	242,285.00
tblLandUse	GreenSpaceSquareFeet	26,136.00	18,535.00
tblLandUse	LandUseSquareFeet	82,400.00	89,222.00
tblLandUse	LandUseSquareFeet	92,800.00	100,483.00
tblLandUse	LandUseSquareFeet	26,136.00	18,535.00
tblLandUse	LandUseSquareFeet	197,472.00	80,335.00
tblLandUse	LandUseSquareFeet	210,000.00	242,285.00
tblLandUse	LotAcreage	1.85	0.10
tblLandUse	LotAcreage	2.09	0.10
tblLandUse	LotAcreage	0.60	0.10
tblLandUse	LotAcreage	0.06	0.05
tblLandUse	LotAcreage	4.53	0.21
tblLandUse	LotAcreage	0.21	0.10
tblLandUse	LotAcreage	0.11	0.10
tblLandUse	LotAcreage	3.39	0.35
tblLandUse	LotAcreage	0.08	0.05
tblLandUse	Population	601.00	426.00
tblLandUse	RecSwimmingAreaSquareFeet	4,840.00	4,840.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	595
tblProjectCharacteristics	OperationalYear	2018	2021
tblSolidWaste	SolidWasteGenerationRate	96.60	112.50

tblSolidWaste	SolidWasteGenerationRate	0.05	0.00
tblSolidWaste	SolidWasteGenerationRate	14.42	0.00
tblSolidWaste	SolidWasteGenerationRate	74.46	27.30
tblSolidWaste	SolidWasteGenerationRate	8.26	0.00
tblSolidWaste	SolidWasteGenerationRate	27.59	0.00
tblSolidWaste	SolidWasteGenerationRate	3.62	2.70
tblTripsAndVMT	HaulingTripNumber	227.00	1,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	17,200.00
tblWater	IndoorWaterUseRate	13,682,345.38	8,111,760.00
tblWater	IndoorWaterUseRate	149,632.15	193,421.00
tblWater	IndoorWaterUseRate	3,449,880.72	5,466,240.00
tblWater	IndoorWaterUseRate	2,746,980.10	4,458,840.00
tblWater	IndoorWaterUseRate	286,252.82	730,730.00
tblWater	IndoorWaterUseRate	255,550.20	25,185.00
tblWater	OutdoorWaterUseRate	8,625,826.44	1,622,352.00
tblWater	OutdoorWaterUseRate	714,888.81	0.00
tblWater	OutdoorWaterUseRate	0.00	625,268.00
tblWater	OutdoorWaterUseRate	91,710.03	38,684.00
tblWater	OutdoorWaterUseRate	383,320.08	1,093,248.00
tblWater	OutdoorWaterUseRate	175,339.16	891,768.00
tblWater	OutdoorWaterUseRate	175,445.28	146,146.00
tblWater	OutdoorWaterUseRate	156,627.54	5,037.00
tblWater	OutdoorWaterUseRate	0.00	704,185.00
tblWoodstoves	NumberCatalytic	10.50	0.00
tblWoodstoves	NumberNoncatalytic	10.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Energy	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	1,078.9248	1,078.9248	0.0431	0.0135	1,084.0329
Waste						0.0000	0.0000		0.0000	0.0000	28.9262	0.0000	28.9262	1.7095	0.0000	71.6635
Water						0.0000	0.0000		0.0000	0.0000	6.0234	82.0934	88.1169	0.6227	0.0154	108.2834

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Energy	0.0316	0.2817	0.1999	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	1,056.1329	1,056.1329	0.0422	0.0132	1,061.1311
Waste						0.0000	0.0000		0.0000	0.0000	28.9262	0.0000	28.9262	1.7095	0.0000	71.6635
Water						0.0000	0.0000		0.0000	0.0000	6.0234	82.0934	88.1169	0.6227	0.0154	108.2834

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	743.3566	743.3566	0.0362	7.5000e-003	746.4961
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	758.2614	758.2614	0.0370	7.6500e-003	761.4639
NaturalGas Mitigated	0.0316	0.2817	0.1999	1.7200e-003		0.0218	0.0218		0.0218	0.0218	0.0000	312.7763	312.7763	5.9900e-003	5.7300e-003	314.6350
NaturalGas Unmitigated	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.6634	320.6634	6.1500e-003	5.8800e-003	322.5690

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					
Apartments High Rise	1.97144e+006	0.0106	0.0908	0.0387	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003	0.0000	105.2037	105.2037	2.0200e-003	1.9300e-003	105.8288
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
Enclosed Parking with Elevator	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
Health Club	44199.1	2.4000e-004	2.1700e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3586	2.3586	5.0000e-005	4.0000e-005	2.3727
Hotel	1.85413e+006	0.0100	0.0909	0.0764	5.5000e-004		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	98.9435	98.9435	1.9000e-003	1.8100e-003	99.5315
Quality Restaurant	2.07073e+006	0.0112	0.1015	0.0853	6.1000e-004		7.7100e-003	7.7100e-003		7.7100e-003	7.7100e-003	0.0000	110.5021	110.5021	2.1200e-003	2.0300e-003	111.1587
Recreational Swimming Pool	63016.8	3.4000e-004	3.0900e-003	2.5900e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3628	3.3628	6.0000e-005	6.0000e-005	3.3828
Strip Mall	5485.5	3.0000e-005	2.7000e-004	2.3000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2927	0.2927	1.0000e-005	1.0000e-005	0.2945
Unenclosed Parking with Elevator	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		**0.0324**	**0.2888**	**0.2049**	**1.7700e-003**		**0.0224**	**0.0224**		**0.0224**	**0.0224**	**0.0000**	**320.6634**	**320.6634**	**6.1600e-003**	**5.8800e-003**	**322.5690**

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					
Apartments High Rise	1.9236e+006	0.0104	0.0886	0.0377	5.7000e-004		7.1700e-003	7.1700e-003		7.1700e-003	7.1700e-003	0.0000	102.6504	102.6504	1.9700e-003	1.8800e-003	103.2604
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
Enclosed Parking with Elevator	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
Health Club	42552.1	2.3000e-004	2.0900e-003	1.7500e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2707	2.2707	4.0000e-005	4.0000e-005	2.2842
Hotel	1.777773e+006	9.5900e-003	0.0871	0.0732	5.2000e-004		6.6200e-003	6.6200e-003		6.6200e-003	6.6200e-003	0.0000	94.8666	94.8666	1.8200e-003	1.7400e-003	95.4304
Quality Restaurant	2.05216e+006	0.0111	0.1006	0.0845	6.0000e-004		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	109.5113	109.5113	2.1000e-003	2.0100e-003	110.1621
Recreational Swimming Pool	59866	3.2000e-004	2.9300e-003	2.4700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1947	3.1947	6.0000e-005	6.0000e-005	3.2137
Strip Mall	5295.75	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2826	0.2826	1.0000e-005	1.0000e-005	0.2843
Unenclosed Parking with Elevator	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		**0.0316**	**0.2817**	**0.1999**	**1.7200e-003**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**312.7763**	**312.7763**	**6.0000e-003**	**5.7400e-003**	**314.6350**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	829628	223.9062	0.0109	2.2600e-003	224.8519
City Park	46337.5	12.5059	6.1000e-004	1.3000e-004	12.5587
Enclosed Parking with Elevator	571913	154.3522	7.5200e-003	1.5600e-003	155.0041
Health Club	27905.9	7.5315	3.7000e-004	8.0000e-005	7.5633
Hotel	604923	163.2610	7.9600e-003	1.6500e-003	163.9506
Quality Restaurant	397838	107.3715	5.2300e-003	1.0800e-003	107.8250
Recreational Swimming Pool	14713.6	3.9710	1.9000e-004	4.0000e-005	3.9878
Strip Mall	45988.5	12.4117	6.0000e-004	1.3000e-004	12.4641
Unenclosed Parking with	270299	72.9504	3.5600e-003	7.4000e-004	73.2585
Total		**758.2614**	**0.0370**	**7.6700e-003**	**761.4639**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	805868	217.4937	0.0106	2.1900e-003	218.4123
City Park	46337.5	12.5059	6.1000e-004	1.3000e-004	12.5587
Enclosed Parking with Elevator	555318	149.8733	7.3000e-003	1.5100e-003	150.5063
Health Club	27622.5	7.4550	3.6000e-004	8.0000e-005	7.4865
Hotel	594680	160.4966	7.8200e-003	1.6200e-003	161.1745
Quality Restaurant	394182	106.3847	5.1900e-003	1.0700e-003	106.8340
Recreational Swimming Pool	14713.6	3.9710	1.9000e-004	4.0000e-005	3.9878
Strip Mall	45300.2	12.2260	6.0000e-004	1.2000e-004	12.2776
Unenclosed Parking with Elevator	270299	72.9504	3.5600e-003	7.4000e-004	73.2585
Total		**743.3566**	**0.0362**	**7.5000e-003**	**746.4961**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Unmitigated	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675

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	0.1226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.1000e-003	0.0435	0.0185	2.8000e-004		3.5200e-003	3.5200e-003		3.5200e-003	3.5200e-003	0.0000	50.4288	50.4288	9.7000e-004	9.2000e-004	50.7285
Landscaping	0.0665	0.0251	2.1780	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5523	3.5523	3.4700e-003	0.0000	3.6390
Total	**1.5110**	**0.0687**	**2.1965**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**53.9811**	**53.9811**	**4.4400e-003**	**9.2000e-004**	**54.3675**

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	0.1226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.1000e-003	0.0435	0.0185	2.8000e-004		3.5200e-003	3.5200e-003		3.5200e-003	3.5200e-003	0.0000	50.4288	50.4288	9.7000e-004	9.2000e-004	50.7285
Landscaping	0.0665	0.0251	2.1780	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5523	3.5523	3.4700e-003	0.0000	3.6390
Total	**1.5110**	**0.0687**	**2.1965**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**53.9811**	**53.9811**	**4.4400e-003**	**9.2000e-004**	**54.3675**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	88.1169	0.6227	0.0154	108.2834
Unmitigated	88.1169	0.6227	0.0154	108.2834

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	8.11176 / 1.62235	35.9444	0.2660	6.5800e-003	44.5533
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0.625268	1.8748	9.0000e-005	2.0000e-005	1.8828
Health Club	0.193421 / 0.038684	0.8571	6.3400e-003	1.6000e-004	1.0624
Hotel	5.46624 / 1.09325	24.2217	0.1792	4.4300e-003	30.0230
Quality Restaurant	4.45884 / 0.891768	19.7578	0.1462	3.6200e-003	24.4899
Recreational Swimming Pool	0.73073 / 0.146146	3.2380	0.0240	5.9000e-004	4.0135
Strip Mall	0.025185 / 0.005037	0.1116	8.3000e-004	2.0000e-005	0.1383
Unenclosed Parking with Elevator	0 / 0.704185	2.1115	1.0000e-004	2.0000e-005	2.1204
Total		**88.1169**	**0.6227**	**0.0154**	**108.2834**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	8.11176 / 1.62235	35.9444	0.2660	6.5800e-003	44.5533
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0.625268	1.8748	9.0000e-005	2.0000e-005	1.8828
Health Club	0.193421 / 0.038684	0.8571	6.3400e-003	1.6000e-004	1.0624
Hotel	5.46624 / 1.09325	24.2217	0.1792	4.4300e-003	30.0230
Quality Restaurant	4.45884 / 0.891768	19.7578	0.1462	3.6200e-003	24.4899
Recreational Swimming Pool	0.73073 / 0.146146	3.2380	0.0240	5.9000e-004	4.0135
Strip Mall	0.025185 / 0.005037	0.1116	8.3000e-004	2.0000e-005	0.1383
Unenclosed Parking with Elevator	0 / 0.704185	2.1115	1.0000e-004	2.0000e-005	2.1204
Total		**88.1169**	**0.6227**	**0.0154**	**108.2834**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	28.9262	1.7095	0.0000	71.6635
Unmitigated	28.9262	1.7095	0.0000	71.6635

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	112.5	22.8365	1.3496	0.0000	56.5764
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Hotel	27.3	5.5417	0.3275	0.0000	13.7292
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	2.7	0.5481	0.0324	0.0000	1.3578
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**28.9262**	**1.7095**	**0.0000**	**71.6635**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	112.5	22.8365	1.3496	0.0000	56.5764
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Hotel	27.3	5.5417	0.3275	0.0000	13.7292
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	2.7	0.5481	0.0324	0.0000	1.3578
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**28.9262**	**1.7095**	**0.0000**	**71.6635**

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

B-4 EMFAC2017 Operational Mobile Emissions

6220 West Yucca Street Mixed Use Project
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

			GHG Emission Factors (metric tons/year)			
	Year	**VMT/day**	**CO2**	**CH4**	**N2O**	**CO2e**
			1	*25*	*298*	
Project	2021	12,607	1,782.25	0.11	0.10	1,814.98

Source: ESA,2019

VMT from the Project's VMT analysis in the CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California, Gibson Transportation Consulting.

EMFAC2017
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2015,2016,2017, 2020, 2021, 2022
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Sum of emissions (tons/day)

Year	CH4	CO2	N2O	Grand Total
2015	17.58898294	207356.7447	13.306071	207387.64
2016	16.66294643	214356.721	13.230683	214386.615
2017	15.86846681	213906.7901	12.777756	213935.436
2018	14.98846214	210586.5551	12.326918	210613.87
2019	14.09854819	206816.5808	11.920045	206842.599
2020	13.24570066	203503.1419	11.578845	203527.966
2021	12.66420943	200204.6453	11.274294	200228.584
2022	11.85747905	196056.7681	10.942032	196079.568

VMT

Year	Miles/Day
2015	426161960
2016	447346996.5
2017	456177177.5
2018	458594603.4
2019	461028055.9
2020	464792657.4
2021	468926961.8
2022	472038174.4

Emission Factors (Metric Tons/mile)

Year	CH4	CO2	N2O	Grand Total
2015	3.74E-08	4.41E-04	2.83E-08	4.41E-04
2016	3.38E-08	4.35E-04	2.68E-08	4.35E-04
2017	3.16E-08	4.25E-04	2.54E-08	4.25E-04
2018	2.96E-08	4.17E-04	2.44E-08	4.17E-04
2019	2.77E-08	4.07E-04	2.35E-08	4.07E-04
2020	2.59E-08	3.97E-04	2.26E-08	3.97E-04
2021	2.45E-08	3.87E-04	2.18E-08	3.87E-04
2022	2.28E-08	3.77E-04	2.10E-08	3.77E-04

B-5 Operational Stationary Source Emissions

Yucca Argyle Project
Draft Environmental Impact Report
Greenhouse Gas Assessment

Project Operational Emissions - Emergency Generator

Standby Emergency Generator			
Rating:	250	kW	*(kW, HP rating reflect total sitewide need)*
	335	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Tier 4		*(compliance with CARB diesel regulations)*
Number of Units:	1		*(kW, HP rating reflect total sitewide need)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

Emergency Generator Emissions

Units	Greenhouse Gases [1]	
	CO_2	CO_2e
g/HP-hr	526.17	531.48
lbs/hr	287.56	290.47
lbs/day	575.13	580.94
lbs/yr	14,378.20	14,523.43
tons/yr	7.19	7.26
metric tons/yr	6.52	6.59

Notes:

1. Emission factor for CO_2: U.S. Environmental Protection Agency, *AP-42 Compilation of Air Pollutant Emission Factors* , Fifth Edition, Section 3.4, Table 3.4-1. Emissions of GHGs assume 99% of the CO_2e emissions occur as CO_2, which is typical for off-road diesel engines.

Source: ESA 2019

6220 Yucca St.
Electric Vehicle Charging

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) [b]	Days/Year	Electricity Demand (kWh/yr)
436	5.0%	4.4	365	35,332.00

Notes:

a. Conservatively assumes each private garage has two outlets/panels.

b. Estimated based on reference sources listed below.

		GHG Emissions (lbs/yr)				
Source	**Electricity Demand (million kWh)**	**CO2**	**CH4**	**N20**	**CO2e**	**MTCO2e (MT/yr)**
EV Charging	0.0353	21,023	1.02	0.21	21,111	9.6

GHG	Intensity factor (lbs/MWh)
CO2	595
CH4	0.029
N2O	0.006

Sources:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.
Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.
Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.
Available at: http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf.

Exhibit C

No Action Taken (NAT) Operational Emissions

ESA

6220 W Yucca Street Project - Operations (Initial Year) - Area, Energy, Water, Waste - South Coast Air Basin, Annual

6220 W Yucca Street Project - Operations (Initial Year) - Area, Energy, Water, Waste

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	206.00	Space	0.10	89,222.00	0
Unenclosed Parking with Elevator	232.00	Space	0.10	100,483.00	0
City Park	0.60	Acre	0.10	18,535.00	0
Health Club	2.53	1000sqft	0.05	2,530.00	0
Hotel	136.00	Room	0.21	80,335.00	0
Quality Restaurant	9.05	1000sqft	0.10	9,050.00	0
Recreational Swimming Pool	4.84	1000sqft	0.10	4,840.00	0
Apartments High Rise	210.00	Dwelling Unit	0.35	242,285.00	426
Strip Mall	3.45	1000sqft	0.05	3,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	595	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: California Air Resources Board, Statewide Emission Factors (EF) For Use With AB 900 Projects (Jan 2017).

Land Use - Multi-Fam (210 DU); Hotel (136 rooms); Retail (3.45 ksf); Rest. (9.05 ksf); Pool (4.84 ksf); Fitness (2.53 ksf); Open Space (25.905 ksf); Parking (~232 above, ~206 below). Pop.=2.03/DU (Hollywood CPA, 426 people).

Construction Phase - Refer to "Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Off-road Equipment - Refer to "Resource Loaded Construction Schedule" worksheet.

Trips and VMT - Refer to "Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs" worksheet.

Demolition -

Grading -

Woodstoves - Assumes residential units equipped with natural gas hearths (210 DU) (SCAQMD Rule 445).

Energy Use - Adjusted for Title 24 (2016) compliance. According to CEC data, Title 24 (2016) standards are expected to result in energy savings of 5% non-residential and 28% residential over the 2013 standards.

Water And Wastewater - Refer to "Project Water Demand Rates" worksheet provided in this Appendix.

Solid Waste - Refer to "Project Solid Waste Disposal Rates" worksheet provided in this Appendix.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Energy Mitigation - no appliance reductions

Table Name	Column Name	Default Value	New Value
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	30.00	0.00
tblApplianceMitigation	PercentImprovement	50.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	59,370.00	47,683.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	178,110.00	143,048.00
tblAreaCoating	Area_Nonresidential_Exterior	59370	47683
tblAreaCoating	Area_Nonresidential_Interior	178110	143048
tblEnergyUse	LightingElect	741.44	533.84
tblEnergyUse	LightingElect	0.00	2.50

tblEnergyUse	LightingElect	1.75	2.50
tblEnergyUse	LightingElect	3.10	3.04
tblEnergyUse	LightingElect	2.14	2.09
tblEnergyUse	LightingElect	7.87	7.72
tblEnergyUse	LightingElect	0.00	3.04
tblEnergyUse	LightingElect	6.26	6.11
tblEnergyUse	LightingElect	1.75	2.50
tblEnergyUse	NT24E	3,054.10	3,277.06
tblEnergyUse	T24E	164.54	139.71
tblEnergyUse	T24E	3.92	3.72
tblEnergyUse	T24E	2.25	2.24
tblEnergyUse	T24E	8.11	8.08
tblEnergyUse	T24E	4.01	3.99
tblEnergyUse	T24NG	4,385.94	4,556.82
tblEnergyUse	T24NG	13.65	13.02
tblEnergyUse	T24NG	19.92	19.02
tblEnergyUse	T24NG	42.98	41.03
tblEnergyUse	T24NG	0.00	13.02
tblEnergyUse	T24NG	1.15	1.10
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	178.50	210.00
tblFireplaces	NumberNoFireplace	21.00	0.00
tblFireplaces	NumberWood	10.50	0.00
tblLandUse	LandUseSquareFeet	82,400.00	89,222.00
tblLandUse	LandUseSquareFeet	92,800.00	100,483.00
tblLandUse	LandUseSquareFeet	26,136.00	18,535.00
tblLandUse	LandUseSquareFeet	197,472.00	80,335.00
tblLandUse	LandUseSquareFeet	210,000.00	242,285.00
tblLandUse	LotAcreage	1.85	0.10
tblLandUse	LotAcreage	2.09	0.10

tblLandUse	LotAcreage	0.60	0.10
tblLandUse	LotAcreage	0.06	0.05
tblLandUse	LotAcreage	4.53	0.21
tblLandUse	LotAcreage	0.21	0.10
tblLandUse	LotAcreage	0.11	0.10
tblLandUse	LotAcreage	3.39	0.35
tblLandUse	LotAcreage	0.08	0.05
tblLandUse	Population	601.00	426.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	595
tblSolidWaste	SolidWasteGenerationRate	96.60	112.50
tblSolidWaste	SolidWasteGenerationRate	0.05	0.00
tblSolidWaste	SolidWasteGenerationRate	14.42	0.00
tblSolidWaste	SolidWasteGenerationRate	74.46	27.30
tblSolidWaste	SolidWasteGenerationRate	8.26	0.00
tblSolidWaste	SolidWasteGenerationRate	27.59	0.00
tblSolidWaste	SolidWasteGenerationRate	3.62	2.70
tblTripsAndVMT	HaulingTripNumber	227.00	1,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	17,200.00
tblWater	IndoorWaterUseRate	13,682,345.38	10,139,700.00
tblWater	IndoorWaterUseRate	149,632.15	241,776.00
tblWater	IndoorWaterUseRate	3,449,880.72	6,832,800.00
tblWater	IndoorWaterUseRate	2,746,980.10	5,573,550.00
tblWater	IndoorWaterUseRate	286,252.82	913,413.00
tblWater	IndoorWaterUseRate	255,550.20	31,481.00
tblWater	OutdoorWaterUseRate	8,625,826.44	2,027,940.00
tblWater	OutdoorWaterUseRate	714,888.81	0.00
tblWater	OutdoorWaterUseRate	0.00	781,054.00
tblWater	OutdoorWaterUseRate	91,710.03	48,355.00
tblWater	OutdoorWaterUseRate	383,320.08	1,366,560.00
tblWater	OutdoorWaterUseRate	175,339.16	1,114,710.00

tblWater	OutdoorWaterUseRate	175,445.28	182,683.00
tblWater	OutdoorWaterUseRate	156,627.54	6,296.00
tblWater	OutdoorWaterUseRate	0.00	880,762.00
tblWoodstoves	NumberCatalytic	10.50	0.00
tblWoodstoves	NumberNoncatalytic	10.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Energy	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	1,078.9248	1,078.9248	0.0431	0.0135	1,084.0329
Waste						0.0000	0.0000		0.0000	0.0000	28.9262	0.0000	28.9262	1.7095	0.0000	71.6635
Water						0.0000	0.0000		0.0000	0.0000	7.5293	102.6168	110.1461	0.7783	0.0193	135.3542

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Energy	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	1,078.9248	1,078.9248	0.0431	0.0135	1,084.0329
Waste						0.0000	0.0000		0.0000	0.0000	28.9262	0.0000	28.9262	1.7095	0.0000	71.6635
Water						0.0000	0.0000		0.0000	0.0000	7.5293	102.6168	110.1461	0.7783	0.0193	135.3542

	ROG	NOx	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**

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	758.2614	758.2614	0.0370	7.6500e-003	761.4639
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	758.2614	758.2614	0.0370	7.6500e-003	761.4639
NaturalGas Mitigated	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.6634	320.6634	6.1500e-003	5.8800e-003	322.5690
NaturalGas Unmitigated	0.0324	0.2888	0.2049	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.6634	320.6634	6.1500e-003	5.8800e-003	322.5690

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					
Apartments High Rise	1.97144e+006	0.0106	0.0908	0.0387	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003	0.0000	105.2037	105.2037	2.0200e-003	1.9300e-003	105.8288
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
Enclosed Parking with Elevator	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
Health Club	44199.1	2.4000e-004	2.1700e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3586	2.3586	5.0000e-005	4.0000e-005	2.3727
Hotel	1.85413e+006	0.0100	0.0909	0.0764	5.5000e-004		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	98.9435	98.9435	1.9000e-003	1.8100e-003	99.5315
Quality Restaurant	2.07073e+006	0.0112	0.1015	0.0853	6.1000e-004		7.7100e-003	7.7100e-003		7.7100e-003	7.7100e-003	0.0000	110.5021	110.5021	2.1200e-003	2.0300e-003	111.1587
Recreational Swimming Pool	63016.8	3.4000e-004	3.0900e-003	2.5900e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3628	3.3628	6.0000e-005	6.0000e-005	3.3828
Strip Mall	5485.5	3.0000e-005	2.7000e-004	2.3000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2927	0.2927	1.0000e-005	1.0000e-005	0.2945
Unenclosed Parking with Elevator	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		**0.0324**	**0.2888**	**0.2049**	**1.7700e-003**		**0.0224**	**0.0224**		**0.0224**	**0.0224**	**0.0000**	**320.6634**	**320.6634**	**6.1600e-003**	**5.8800e-003**	**322.5690**

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					
Apartments High Rise	1.97144e+006	0.0106	0.0908	0.0387	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003	0.0000	105.2037	105.2037	2.0200e-003	1.9300e-003	105.8288
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
Enclosed Parking with Elevator	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
Health Club	44199.1	2.4000e-004	2.1700e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3586	2.3586	5.0000e-005	4.0000e-005	2.3727
Hotel	1.85413e+006	0.0100	0.0909	0.0764	5.5000e-004		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	98.9435	98.9435	1.9000e-003	1.8100e-003	99.5315
Quality Restaurant	2.07073e+006	0.0112	0.1015	0.0853	6.1000e-004		7.7100e-003	7.7100e-003		7.7100e-003	7.7100e-003	0.0000	110.5021	110.5021	2.1200e-003	2.0300e-003	111.1587
Recreational Swimming Pool	63016.8	3.4000e-004	3.0900e-003	2.5900e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3628	3.3628	6.0000e-005	6.0000e-005	3.3828
Strip Mall	5485.5	3.0000e-005	2.7000e-004	2.3000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2927	0.2927	1.0000e-005	1.0000e-005	0.2945
Unenclosed Parking with Elevator	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		**0.0324**	**0.2888**	**0.2049**	**1.7700e-003**		**0.0224**	**0.0224**		**0.0224**	**0.0224**	**0.0000**	**320.6634**	**320.6634**	**6.1600e-003**	**5.8800e-003**	**322.5690**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	829628	223.9062	0.0109	2.2600e-003	224.8519
City Park	46337.5	12.5059	6.1000e-004	1.3000e-004	12.5587
Enclosed Parking with Elevator	571913	154.3522	7.5200e-003	1.5600e-003	155.0041
Health Club	27905.9	7.5315	3.7000e-004	8.0000e-005	7.5633
Hotel	604923	163.2610	7.9600e-003	1.6500e-003	163.9506
Quality Restaurant	397838	107.3715	5.2300e-003	1.0800e-003	107.8250
Recreational Swimming Pool	14713.6	3.9710	1.9000e-004	4.0000e-005	3.9878
Strip Mall	45988.5	12.4117	6.0000e-004	1.3000e-004	12.4641
Unenclosed Parking with Elevator	270299	72.9504	3.5600e-003	7.4000e-004	73.2585
Total		**758.2614**	**0.0370**	**7.6700e-003**	**761.4639**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	829628	223.9062	0.0109	2.2600e-003	224.8519
City Park	46337.5	12.5059	6.1000e-004	1.3000e-004	12.5587
Enclosed Parking with Elevator	571913	154.3522	7.5200e-003	1.5600e-003	155.0041
Health Club	27905.9	7.5315	3.7000e-004	8.0000e-005	7.5633
Hotel	604923	163.2610	7.9600e-003	1.6500e-003	163.9506
Quality Restaurant	397838	107.3715	5.2300e-003	1.0800e-003	107.8250
Recreational Swimming Pool	14713.6	3.9710	1.9000e-004	4.0000e-005	3.9878
Strip Mall	45988.5	12.4117	6.0000e-004	1.3000e-004	12.4641
Unenclosed Parking with Elevator	270299	72.9504	3.5600e-003	7.4000e-004	73.2585
Total		**758.2614**	**0.0370**	**7.6700e-003**	**761.4639**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675
Unmitigated	1.5110	0.0687	2.1965	3.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	53.9811	53.9811	4.4300e-003	9.2000e-004	54.3675

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	0.1226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.1000e-003	0.0435	0.0185	2.8000e-004		3.5200e-003	3.5200e-003		3.5200e-003	3.5200e-003	0.0000	50.4288	50.4288	9.7000e-004	9.2000e-004	50.7285
Landscaping	0.0665	0.0251	2.1780	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5523	3.5523	3.4700e-003	0.0000	3.6390
Total	**1.5110**	**0.0687**	**2.1965**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**53.9811**	**53.9811**	**4.4400e-003**	**9.2000e-004**	**54.3675**

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	0.1226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.1000e-003	0.0435	0.0185	2.8000e-004		3.5200e-003	3.5200e-003		3.5200e-003	3.5200e-003	0.0000	50.4288	50.4288	9.7000e-004	9.2000e-004	50.7285
Landscaping	0.0665	0.0251	2.1780	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5523	3.5523	3.4700e-003	0.0000	3.6390
Total	**1.5110**	**0.0687**	**2.1965**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**53.9811**	**53.9811**	**4.4400e-003**	**9.2000e-004**	**54.3675**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	110.1461	0.7783	0.0193	135.3542
Unmitigated	110.1461	0.7783	0.0193	135.3542

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	10.1397 / 2.02794	44.9305	0.3324	8.2200e-003	55.6916
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0.781054	2.3420	1.1000e-004	2.0000e-005	2.3518
Health Club	0.241776 / 0.048355	1.0713	7.9300e-003	2.0000e-004	1.3279
Hotel	6.8328 / 1.36656	30.2772	0.2240	5.5400e-003	37.5287
Quality Restaurant	5.57355 / 1.11471	24.6972	0.1827	4.5200e-003	30.6123
Recreational Swimming Pool	0.913413 / 0.182683	4.0475	0.0300	7.4000e-004	5.0169
Strip Mall	0.031481 / 0.006296	0.1395	1.0300e-003	3.0000e-005	0.1729
Unenclosed Parking with Elevator	0 / 0.880762	2.6409	1.3000e-004	3.0000e-005	2.6521
Total		**110.1461**	**0.7783**	**0.0193**	**135.3542**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	10.1397 / 2.02794	44.9305	0.3324	8.2200e-003	55.6916
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0.781054	2.3420	1.1000e-004	2.0000e-005	2.3518
Health Club	0.241776 / 0.048355	1.0713	7.9300e-003	2.0000e-004	1.3279
Hotel	6.8328 / 1.36656	30.2772	0.2240	5.5400e-003	37.5287
Quality Restaurant	5.57355 / 1.11471	24.6972	0.1827	4.5200e-003	30.6123
Recreational Swimming Pool	0.913413 / 0.182683	4.0475	0.0300	7.4000e-004	5.0169
Strip Mall	0.031481 / 0.006296	0.1395	1.0300e-003	3.0000e-005	0.1729
Unenclosed Parking with Elevator	0 / 0.880762	2.6409	1.3000e-004	3.0000e-005	2.6521
Total		**110.1461**	**0.7783**	**0.0193**	**135.3542**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	28.9262	1.7095	0.0000	71.6635
Unmitigated	28.9262	1.7095	0.0000	71.6635

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	112.5	22.8365	1.3496	0.0000	56.5764
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Hotel	27.3	5.5417	0.3275	0.0000	13.7292
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	2.7	0.5481	0.0324	0.0000	1.3578
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**28.9262**	**1.7095**	**0.0000**	**71.6635**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	112.5	22.8365	1.3496	0.0000	56.5764
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Hotel	27.3	5.5417	0.3275	0.0000	13.7292
Quality Restaurant	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	2.7	0.5481	0.0324	0.0000	1.3578
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**28.9262**	**1.7095**	**0.0000**	**71.6635**

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

6220 West Yucca Street Mixed Use Project
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

			GHG Emission Factors (metric tons/year)			
Year		**VMT/day**	**CO2**	**CH4**	**N2O**	**CO2e**
			1	*25*	*298*	
Project - NIERM	2021	17,694	2,501.36	0.16	0.14	2,547.29

Source: ESA,2019

VMT from the Project's VMT analysis in the CEQA Thresholds Analysis for the 6220 Yucca Street Mixed-Use Project Hollywood, California, Gibson Transportation Consulting.

EMFAC2017
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2015,2016,2017, 2020, 2021, 2022
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Sum of emissions (tons/day)

Year	CH4	CO2	N2O	Grand Total
2015	17.58898294	207356.7447	13.306071	207387.64
2016	16.66294643	214356.721	13.230683	214386.615
2017	15.86846681	213906.7901	12.777756	213935.436
2018	14.98846214	210586.5551	12.326918	210613.87
2019	14.09854819	206816.5808	11.920045	206842.599
2020	13.24570066	203503.1419	11.578845	203527.966
2021	12.66420943	200204.6453	11.274294	200228.584
2022	11.85747905	196056.7681	10.942032	196079.568

VMT

Year	Miles/Day
2015	426161960
2016	447346996.5
2017	456177177.5
2018	458594603.4
2019	461028055.9
2020	464792657.4
2021	468926961.8
2022	472038174.4

Emission Factors (Metric Tons/mile)

Year	CH4	CO2	N2O	Grand Total
2015	3.74E-08	4.41E-04	2.83E-08	4.41E-04
2016	3.38E-08	4.35E-04	2.68E-08	4.35E-04
2017	3.16E-08	4.25E-04	2.54E-08	4.25E-04
2018	2.96E-08	4.17E-04	2.44E-08	4.17E-04
2019	2.77E-08	4.07E-04	2.35E-08	4.07E-04
2020	2.59E-08	3.97E-04	2.26E-08	3.97E-04
2021	2.45E-08	3.87E-04	2.18E-08	3.87E-04
2022	2.28E-08	3.77E-04	2.10E-08	3.77E-04