

3.4 GREENHOUSE GAS EMISSIONS

This section describes existing climate change and greenhouse gas (GHG) emissions issues, identifies associated regulatory requirements, evaluates potentially adverse impacts related to GHG emissions during construction and operation of the proposed project related to implementation of The Bond Project (project or proposed project).

3.4.1 Environmental Setting

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃) (see also State of California Environmental Quality Act (CEQA) Guidelines, Section 15364.5).¹ Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted into the atmosphere through natural

¹ Climate-forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the three GHGs that are estimated in the California Emissions Estimator Model (CalEEMod) as impacts associated with other climate-forcing substances are not evaluated herein.

processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the GHGs and their sources that are evaluated in this analysis.²

Carbon Dioxide. CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic (human-caused) GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, racecars, and aerosol sprays).

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2018). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The

² The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (IPCC 1995), IPCC Fourth Assessment Report (IPCC 2007), CARB's "Glossary of Terms Used in GHG Inventories" (CARB 2018a), and EPA's "Glossary of Climate Change Terms" (EPA 2016).

reference gas used is CO₂; therefore, GWP-weighted emissions are measured in metric tons of CO₂ equivalent (MT CO₂e).

The current version of California Emissions Estimator Model (CalEEMod) (version 2016.3.2) assumes that the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). While this GHG analysis uses a spreadsheet model because CalEEMod is the industry standard emission estimator model, the GWP values identified in CalEEMod were applied to the Project.

Sources of Greenhouse Gas Emissions

Per the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016* (2018), total United States GHG emissions were approximately 6,511.3 million metric tons (MMT) CO₂e in 2016. The primary GHG emitted by human activities in the United States was CO₂, which represented approximately 81.6% of total GHG emissions (5,310.9 MMT CO₂e). The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.5% of CO₂ emissions in 2016 (4,966.0 MMT CO₂e). Relative to 1990, gross United States GHG emissions in 2016 are higher by 2.4%, down from a high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2015 to 2016 by 1.9% (126.8 MMT CO₂e) and overall, net emissions in 2016 were 11.1% below 2005 levels (EPA 2018).

According to California's 2000–2016 GHG emissions inventory (2018 edition), California emitted 429.4 MMT CO₂e in 2016, including emissions resulting from out-of-state electrical generation (CARB 2018b). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions in 2016 are presented in Table 3.4-1.

**Table 3.4-1
Greenhouse Gas Emissions Sources in California**

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	169.38	41%
Industrial	89.61	23%
Electric power ^b	68.58	16%
Commercial and residential	39.36	12%
Agriculture	33.84	8%
High global-warming potential substances	19.78	4%
Recycling and waste	8.81	2%
Total	429.4	100%

Source: CARB 2018b.

Notes: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent.

Emissions reflect the 2016 California GHG inventory.

^a Percentage of total has been rounded, and total may not sum due to rounding.

^b Includes emissions associated with imported electricity, which account for 26.28 MMT CO_{2e} annually.

Table 3.4-2, presents the City’s 2008 GHG emissions and the percent contribution of each emissions sector (transportation, commercial/industrial energy use, residential energy use, wastewater treatment, solid waste, and water consumption).

**Table 3.4-2
City of West Hollywood Baseline Greenhouse Gas Emissions Inventory (2008)**

Emissions Sector	Annual GHG Emissions (MT CO _{2e} /year)	Percent of Total ^a
Transportation	361,350	62%
Commercial/Industrial Energy Use	116,197	20%
Residential Energy Use	70,378	12%
Wastewater Treatment	20,981	4%
Solid Waste	8,543	1%
Water Consumption	5,764	1%
Total^a	583,213	100%

Source: City of West Hollywood 2011a.

Notes: GHG = greenhouse gas; MT CO_{2e} = metric tons of carbon dioxide equivalent per year.

^a Total may not sum due to rounding.

As shown on Table 3.4-2, the primary generators of GHGs in the City were attributed to transportation and commercial/industrial energy uses, accounting for 62% and 20% of the City’s GHG emissions in 2008, respectively. Residential energy uses accounted for approximately 12%, and wastewater treatment, solid waste, and water consumption accounted for the remaining 6% of the City’s GHG emissions.

In May 2018, the City released a Climate Action Plan Annual Progress Report, which is a synopsis of the City’s progress in implementing measures identified in the CAP and in meeting its GHG reduction target of 20% to 25% below 2008 emission levels by 2035. The CAP Annual Progress Report utilized a new CAP Implementation and Monitoring Tool, which is a calculation model that better facilitates the collection and analysis of the City’s community and municipal emissions data. Table 3.4-3 presents baseline (2008) and reporting year (2016) GHG emissions (MT CO_{2e}) for transportation, natural gas, electricity, solid waste, and water and wastewater sources, as well as the total change in GHG emissions from the baseline to reporting year.

Table 3.4-3
City of West Hollywood Changes in Community Greenhouse Gas Emissions by Source
(2008 and 2016)

Emissions Source	2008 Annual GHG Emissions (MT CO ₂ e/year)	2016 Annual GHG Emissions (MT CO ₂ e/year)	Change (MT CO ₂ e/year)	Change (Percent Change)
Transportation	361,350	N/A	N/A	N/A
Natural Gas	90,130	54,002	(36,1258)	(40.08%)
Electricity	96,445	70,878	(25,567)	(26.51%)
Solid Waste	8,543	8,619	76	0.89%
Water and Wastewater	26,745	3,903	(22,842)	(85.41%)

Source: City of West Hollywood 2018.

Notes: GHG = greenhouse gas; MT CO₂e = metric tons of carbon dioxide equivalent per year; N/A = not available.

Numbers in parenthesis represent a negative number.

An analysis of vehicle miles traveled and transportation emissions factors was not conducted as part of the 2016 update due to data unavailability, and therefore, transportation emissions are currently reflected as unchanged from 2008.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California.

The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically-based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems – the ocean, lakes, rivers and snowpack – upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments need for information to support action in their communities, the Fourth Assessment (2018) includes

reports for nine regions of the state, including the Los Angeles Region, where the project is located. Key projected climate changes for the Los Angeles Region include the following (CNRA 2018):

- Continued future warming over the Los Angeles region. Across the region, average maximum temperatures are projected to increase around 4°F to 5°F by the mid-century, and 5°F to 8°F by the late-century.
- Extreme temperatures are also expected to increase. The hottest day of the year may be up to 10°F warmer for many locations across the Los Angeles region by the late-century under certain model scenarios. The number of extremely hot days is also expected to increase across the region.
- Despite small changes in average precipitation, dry and wet extremes are both expected to increase. By the late 21st century, the wettest day of the year is expected to increase across most of the Los Angeles region, with some locations experiencing 25% to 30% increases under certain model scenarios. Increased frequency and severity of atmospheric river events are also projected to occur for this region.
- Sea levels are projected to continue to rise in the future, but there is a large range based on emissions scenario and uncertainty in feedbacks in the climate system. Roughly 1 foot to 2 feet of sea level rise is projected by the mid-century, and the most extreme projections lead to 8 feet to 10 feet of sea level rise by the end of the century.
- Projections indicate that wildfire may increase over southern California, but there remains uncertainty in quantifying future changes of burned area over the Los Angeles region.

Existing Site Conditions

Emissions from the existing land uses were estimated using CalEEMod to present the net change in GHG emissions. The estimation of operational emissions generated under existing conditions was based on approximately 10,000 square feet of gym, 7 dwelling units in a low-rise complex, and 82 surface parking spots currently on site. See Section 3.4.4, Methodology, for a description of the methodology and assumptions applied to estimate GHG emissions from the existing use of the project site.

3.4.2 Relevant Plan, Policies, and Ordinances

International

United Nations Framework Convention on Climate Change, Kyoto Protocol, and Paris Agreement

In 1992, numerous countries joined an international treaty, the United Nations Framework Convention on Climate Change (UNFCCC), as a framework for international cooperation to

combat climate change by limiting average global temperature increases and the resulting climate change, and coping with associated impacts. Currently, there are 197 Parties (196 States and 1 regional economic integration organization) in the UNFCCC (UNFCCC 2019).

By 1995, countries launched negotiations to strengthen the global response to climate change, and, two years later, adopted the Kyoto Protocol, which was the first international agreement to regulate GHG emissions. The Kyoto Protocol legally binds developed country Parties to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on January 1, 2013 and will end in 2020. More than 160 countries signed the Kyoto Protocol (UNFCCC 2019). In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended the United States involvement in the Kyoto Protocol.

The 2015 Paris Agreement, adopted in Paris on December 12, 2015, marks the latest step in the evolution of the UN climate change regime and builds on the work undertaken under the Convention. The Paris Agreement charts a new course in the global effort to combat climate change. The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C (UNFCCC 2019). The Paris Agreement also aims to strengthen the ability of countries to deal with the impacts of climate change. The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions and to strengthen these efforts in the years ahead.

The Paris Agreement entered into force on November 4, 2016, 30 days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55% of the total global GHG emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary (UNFCCC 2019). On June 2, 2017, President Donald Trump announced his intention to withdraw from the Paris Agreement. However, under the terms of the agreement, the United States cannot formally announce its resignation until November 4, 2019. Subsequently, withdrawal would be effective one year after notification in 2020.

Federal

Massachusetts v. U.S. Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency*, the U.S. Supreme Court ruled that CO₂ was a pollutant and directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator is required to follow the

language of Section 202(a) of the Clean Air Act. On December 7, 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The elevated concentrations of GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The combined emissions of GHGs—CO₂, CH₄, N₂O, and hydrofluorocarbons—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act

On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the act would do the following to aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel by 2022.
2. Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

EPA and National Highway Traffic Safety Administration Joint Final Rule for Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 federal proposal are speculative at this time.

State

The statewide GHG emissions regulatory framework is summarized as follows by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders (EOs), assembly bills (ABs), senate bills (SBs), and other regulations and plans that would directly or indirectly reduce GHG emissions. The State's adoption and implementation of various legislation demonstrates California's leadership in addressing the critical challenge of addressing climate change. Of importance, the proposed project and/or users of the proposed project would be required to comply with the various regulatory measures that would reduce GHG

emissions, which would reduce the proposed project’s contribution to cumulative GHG emissions and associated climate change impacts.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized as follows.

EO S-3-05. EO S-3-05 (June 2005) established California’s GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California’s GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state’s long-range climate objectives.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030.

CARB’s Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a “scoping plan” for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state’s long-range climate objectives.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)* defined the state’s GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The *First Update* concluded that

California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05.

In December 2017, CARB adopted the *2017 Climate Change Scoping Plan Update (2030 Scoping Plan)* (CARB 2017). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05.

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality no later than 2045, and achieve and maintain net negative emissions thereafter.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24 standards are the 2016 Title 24 Building Energy Efficiency Standards, which became effective January 1, 2017. The 2019 Title 24 Building Energy Efficiency Standards, which will be effective January 1, 2020, will further reduce energy used and associated GHG emissions compared to current standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family

residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24, Part 11. In addition to the CEC’s efforts, in 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer’s demonstration that the appliance meets the standards.

Renewable Energy and Energy Procurement

SB 1078, EO S-14-08, SBX1-2, SB 350, and SB 100. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. EO S-14-08 (November 2008) required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. SB X1 2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California.

Mobile Sources

AB 1493. AB 1493 (Pavley) (July 2002) was enacted in a response to the transportation sector accounting for more than half of California’s CO₂ emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in

GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard (LCFS) for GHG emissions measured in CO₂e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.).

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state’s 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB.

In September 2010, CARB adopted the first SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a SCS is the responsibility of the metropolitan planning organizations. On April 4, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS, which builds upon the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction by 2020 and an 18% reduction by 2030 (SCAG 2016). In June 2016, CARB accepted SCAG’s quantification of GHG reductions and its determination the SCS, if implemented, would achieve SCAG targets

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives

have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000. AB 341 (Chapter 476, Statutes of 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter.

Local

City of West Hollywood General Plan 2035 Infrastructure, Resources, and Conservation

The Infrastructure, Resources, and Conservation Element of the West Hollywood General Plan 2035 (City of West Hollywood 2011b) includes GHG policies intended to reduce the effects of climate change in the City. Key policies include Policy IRC-4.2, which calls for promoting land use patterns and mobility decisions that result in reduced vehicle trips and therefore reduced overall energy use from the transportation sector, and Policy IRC-6.9, which encourages a shift in travel from single-occupant autos to walking, biking, public transit, and ride-sharing.

City of West Hollywood Climate Action Plan

The City of West Hollywood's Climate Action Plan (CAP) recommends a series of actions that the City, residents, property owners, and businesses can take to reduce its contributions to global climate change by reducing GHG emissions (City of West Hollywood 2011a). The City's CAP outlines a course of action to reduce municipal and communitywide GHG emissions that contribute to climate change. The City's CAP seeks to:

- Provide clear guidance to City staff and decision makers regarding when and how to implement key actions to reduce GHG emissions.
- Place the City on a path to reduce annual communitywide GHG emissions by 20%–25% below 2008 business-as-usual emission levels by 2035.
- Inspire residents, property owners, and businesses to participate in community efforts to reduce GHG emissions.

- Demonstrate West Hollywood’s ability to respond to and comply with California GHG reduction legislation and guidelines.

City of West Hollywood’s Green Building Ordinance

On October 1, 2007, the City adopted one of the nation’s first mandatory green building ordinances. A key component of the City’s Green Building Program was the Green Building Point System for new construction, which offers incentives for projects that achieve exemplary status across a range of sustainable measures. The City’s CAP includes actions which both strengthen and update the Green Building Ordinance within the Energy Use and Efficiency section.

3.4.3 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. Based on these thresholds, implementation of the proposed project would have a significant adverse impact related to GHG emissions if it would:

- GHG-1.** Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- GHG-2.** Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project’s contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor’s Office of Planning and Research’s Technical Advisory titled “CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review” states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must

be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact” (OPR 2008). Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.” Section 15064.7(c) of the CEQA Guidelines specifies that “when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

To address Threshold GHG-1, this analysis uses the SCAQMD recommended (not adopted) numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects.

In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO₂e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (see SCAQMD Resolution No. 08-35, December 5, 2008).

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

- Tier 1** Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- Tier 2** Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

- Tier 3** Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO₂e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO₂e per year), commercial projects (1,400 MT CO₂e per year), and mixed-use projects (3,000 MT CO₂e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO₂e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.
- Tier 4** Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO₂e per service population for project level analyses and 6.6 MT CO₂e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.
- Tier 5** Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Because the project consists of a mixed use development, this analysis applies the recommended SCAQMD threshold of 3,000 MT CO₂e per year. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO₂e per year in evaluating threshold GHG-1.

For the purpose of evaluating the GHG impacts associated with the proposed project under threshold GHG-2, this analysis evaluates the consistency of the proposed project with the City's CAP and state GHG reduction goals as articulated in SB 350 and the 2030 Scoping Plan.

3.4.4 Methodology

Construction Emissions

CalEEMod Version 2016.3.2 was used to estimate project-generated GHG emissions during construction. Construction of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.2.4, Methodology (Construction Emissions), are also applicable for the estimation of construction-related GHG emissions. As such, see Section 3.2.4 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

Operational Emissions

Emissions from the operational phase of the project were estimated using CalEEMod Version 2016.3.2. Operational year 2021 was assumed consistent with the traffic impact study (TIS) prepared for the project (KOA 2019).

Emissions from the existing land uses were also estimated using CalEEMod to present the net change in criteria air pollutant emissions. Operational year 2019 was assumed for the existing scenario.

Potential project-generated and existing operational GHG emissions were estimated for area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text. For additional details, see Section 3.2.4, Methodology (Operational Emissions), for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources.

Area

CalEEMod was used to estimate GHG emissions from the project's and existing scenario area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. See Section 3.2.4 for a discussion of landscaping equipment emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions.

Energy

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the project's land uses. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Study. For nonresidential buildings, CalEEMod energy intensity value (electricity or natural gas usage per square foot per year) assumptions were based on the California Commercial End-Use Survey database. Emissions are calculated by multiplying the energy use by the utility carbon intensity (pounds of GHGs per kilowatt-hour for electricity or 1,000 British thermal units for natural gas) for CO₂ and other GHGs (CAPCOA 2017).

CalEEMod default energy intensity factors (CO₂, CH₄, and N₂O mass emissions per kilowatt-hour) for SCE is based on the value for SCE's energy mix in 2012. As explained in Section 3.4.2, SB X1 2 established a target of 33% from renewable energy sources for all electricity providers in California by 2020 and SB 350 calls for further development of renewable energy, with a target of 50% by 2030. The CO₂ emissions intensity factor for utility energy use in CalEEMod was adjusted consistent with SCE's 2017 Power Content Label, which reported that 29% of the power mix was

generated by eligible renewable sources (SCE 2018).³ Because SCE is striving to meet the 33% RPS by December 31, 2020, the CO₂ emissions intensity factor is anticipated to be less than assumed in CalEEMod at project operation (2021), which would reflect the increase in percentage of renewable energy in SCE's energy portfolio.⁴

Mobile Sources

All details for criteria air pollutants discussed in Section 3.2.4 are also applicable for the estimation of operational mobile source GHG emissions. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the project's motor vehicles. The effectiveness of fuel economy improvements was evaluated by using the CalEEMod emission factors for motor vehicles in 2021 for the project to the extent it was captured in EMFAC 2014.⁵

Solid Waste

The project would generate solid waste, and therefore, result in CO₂e emissions associated with landfill off-gassing, as occurring under the existing scenario. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste for the project and existing land uses. It was assumed that the project and existing land uses would have a 50% solid waste diversion rate, consistent with the solid waste diversion requirements of AB 939, Integrated Waste Management Act. It should be noted that this is a conservative assumption, as the goal for the state is 75% diversion by 2020 in accordance with AB 341.

³ The CalEEMod default CO₂ intensity factor for SCE is 702.44 pounds per megawatt hour. The CO₂ intensity factor was revised to 628.13 pounds per megawatt hour to reflect 29% of power provided by eligible renewable sources, resulting in an approximately 11% reduction.

⁴ Assuming that eligible renewable sources would comprise 33% of SCE's power mix by December 31, 2020, the CO₂ intensity factor is anticipated to be 592.74 pounds per megawatt hour, which would be a reduction of approximately 6% compared to the SCE CO₂ intensity factor assumed for 2017 and applied in this analysis.

⁵ The Low Carbon Fuel Standard calls for a 10% reduction in the "carbon intensity" of motor vehicle fuels by 2020, which would further reduce GHG emissions. However, the carbon intensity reduction associated with the Low Carbon Fuel Standard was not assumed in EMFAC 2014 and thus, was not included in CalEEMod 2016.3.2.

Water and Wastewater Treatment

Supply, conveyance, treatment, and distribution of water for the project and existing land uses require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project and existing land uses requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The indoor and outdoor water use and electricity consumption from water use and wastewater generation were estimated using CalEEMod default values for the project and existing scenario, and it was assumed that wastewater treatment would be 100% aerobic.

3.4.5 Impact Analysis

Threshold GHG-1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road haul trucks, on-road vendor trucks, and worker vehicles. The SCAQMD has not proposed or adopted relevant quantitative GHG thresholds for construction-generated emissions. Nonetheless, GHG emissions generated during construction of the proposed project are included in this assessment for disclosure purposes.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 3.2, Air Quality. It is anticipated that construction of the project would commence in April 2020 and reach completion in December 2021.⁶ On-site sources of GHG emissions include off-road equipment and off-site sources including haul trucks, vendor trucks and worker vehicles. Table 3.4-4 presents construction emissions for the proposed project in 2020 and 2021 from on-site and off-site emission sources. Emissions of CO₂, CH₄, N₂O, and CO₂e are presented consistent with the CalEEMod output. As discussed in Section 3.4.1, CO₂e is a measure used to compare the emissions from CO₂, CH₄, and N₂O based upon their GWP.

**Table 3.4-4
Estimated Annual Construction Greenhouse Gas Emissions**

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
2020	636.24	0.09	0.00	638.36

⁶ The analysis assumes a construction start date of April 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 3.4-4
Estimated Annual Construction Greenhouse Gas Emissions

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
2021	371.96	0.05	0.00	373.16
Total	1,008.20	0.14	0.00	1,011.52
Amortized Emissions	33.72			

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

See Appendix B for complete results.

Amortized construction GHG emissions represent total construction GHG emissions divided 30 years, which is the assumed project operational lifetime consistent with SCAQMD guidance (SCAQMD 2008).

As shown in Table 3.4-4, the estimated total GHG emissions during construction would be approximately 1,012 MT CO₂e over the construction period.

Estimated project-generated construction emissions amortized over 30 years would be approximately 34 MT CO₂e per year. As with project-generated construction air pollutant emissions, GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the following operational emissions analysis.

Operational Emissions

Operation of the project and operation under the existing scenario would generate GHG emissions through motor vehicle trips; landscape maintenance equipment operation (area source); energy use (natural gas and electricity); solid waste disposal; and water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.4.4, Methodology.

The estimated operational proposed project-generated and existing GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation, and the net change in emissions (Proposed Project minus Existing) are shown in Table 3.4-5. As with the construction emission estimates, operational emissions of CO₂, CH₄, N₂O, and CO₂e are presented consistent with the CalEEMod output.

Table 3.4-5
Estimated Annual Operational GHG Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
<i>Proposed Project</i>				
Area	1.19	0.00	0.00	1.22

**Table 3.4-5
Estimated Annual Operational GHG Emissions**

Emission Source	CO ₂	CH ₄	N ₂ O	CO _{2e}
	Metric Tons per Year			
Energy	612.03	0.02	0.00	614.80
Mobile	1,501.38	0.08	0.00	1,503.46
Solid waste	8.54	0.50	0.00	21.16
Water supply and wastewater	42.75	0.01	0.00	44.98
Total	2,165.89	0.61	0.00	2,185.62
<i>Existing</i>				
Area	0.12	0.00	0.00	0.12
Energy	57.64	0.00	0.00	57.90
Mobile	326.06	0.02	0.00	326.57
Solid waste	6.11	0.36	0.00	15.14
Water supply and wastewater	5.94	0.00	0.00	6.61
Total	395.87	0.38	0.00	406.34
<i>Net Change in Emissions</i>				
Net Change (Proposed Project – Existing)	1,770.02	0.23	0.00	1,779.28
<i>Amortized construction emissions</i>				33.72
Total net operational + amortized construction GHGs				1,813.00

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO_{2e} = carbon dioxide equivalent.

See Appendix B for complete results.

Totals may not sum due to rounding.

The Proposed Project emissions reflect operational year 2021. The Existing emissions reflect operational year 2019.

As shown in Table 3.4-5, estimated net annual project-generated GHG emissions would be approximately 1,779 MT CO_{2e} per year as a result of project operation. Estimated net annual project-generated operational emissions in 2021 and amortized project construction emissions would be approximately 1,813 MT CO_{2e} per year. As such, annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold of 3,000 MT CO_{2e} per year. Therefore, the proposed project's GHG contribution would not be cumulatively considerable and is **less than significant**.

Threshold GHG-2. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project Consistency with the City's Climate Action Plan

The City adopted its CAP on September 6, 2011, concurrent with the adoption of the City's 2035 General Plan. The City's CAP includes strategies and performance indicators to reduce GHG emissions from municipal and communitywide activities within the City. The City's CAP strategies address seven major GHG sources and recommend actions to achieve GHG reductions through: community leadership and engagement, land use and community design, transportation

and mobility, energy use and efficiency, water use and efficiency, waste reduction and recycling, and green space. For each strategy, the City’s CAP recommends measures and actions that translate the CAP’s vision into on-the-ground action. Measures define the direction that the City will take to accomplish its GHG reduction goals, while actions define the specific steps that City staff and decision makers will take over time. Overall, the goal of the City’s CAP is to reduce the City’s communitywide GHG emissions by 20%–25% below 2008 emission levels by 2035.

Table 3.4-6 describes the project’s consistency with the City’s applicable CAP measures. As stated in the City’s CAP, projects that demonstrate consistency with the goals, strategies, actions, and emission reduction targets contained in the City’s CAP would have a less-than-significant impact on climate change.

**Table 3.4-6
Project Consistency with Applicable City of West Hollywood’s
Climate Action Plan Reduction Measures**

Reduction Measures	Project Consistency
<i>Land Use and Community Design</i>	
LU-1.1: Facilitate the establishment of mixed-use, pedestrian- and transit-oriented development along the commercial corridors and in Transit Overlay Zones	Consistent. The proposed project is in a Transit Overlay Zone and Transit Priority Area. The proposed project is a pedestrian-oriented mixed-use hotel that provides hotel, residential, restaurant, and other commercial uses on the project site. The site is located in the Mixed-Use Incentive Overlay Zone, and is consistent of the applicable goals and standards of that designation. The site will enhance the pedestrian experience on Santa Monica Boulevard by providing both housing and commercial uses near transit stations and other mixed-use development, which would provide additional commercial and social activity. The project area is served by bus transit lines the Los Angeles County Metropolitan Transportation Authority, and the City of Los Angeles Department of Transportation, including the 704 rapid bus, which stops directly adjacent to the project on Santa Monica Boulevard and Fairfax Avenue. In addition, because the proposed project is an infill project, the project may reduce vehicle trips and/or vehicle miles traveled (VMT) due to proximity to complimentary land uses and employment centers.
<i>Transportation and Mobility</i>	
T-1.1: Increase the pedestrian mode share in West Hollywood with convenient and attractive pedestrian infrastructure and facilities.	Consistent. The proposed project will be designed to encourage pedestrian activity. Separation of pedestrians from vehicular traffic would be accomplished through several elements on site, such as providing parking in a subterranean parking garage.
T-2.1: Increase the bicycle mode share by providing accessible, convenient, and attractive bicycle infrastructure.	Consistent. The project provides 38 bicycle parking spaces and does not impede existing or planning bicycle infrastructure.

**Table 3.4-6
Project Consistency with Applicable City of West Hollywood’s
Climate Action Plan Reduction Measures**

Reduction Measures	Project Consistency
T-2.2: Install bike racks and bike parking in the City where bike parking infrastructure currently does not exist.	Consistent. The proposed project includes bicycle parking for employees and customers as well as showers on site pursuant to the City’s Municipal Code requirements.
<i>Energy Use and Efficiency</i>	
E-2.2: Require all new construction to achieve California Building Code Tier II Energy Efficiency Standards (Section 503.1.2).	Consistent. In addition to complying with the City’s Green Building Ordinance (City of West Hollywood Municipal Code Section 19.20.060), the project would be required to achieve California Building Code Tier II Energy Efficiency Standards which states that new construction must exceed 2007 California Energy Code requirements by 30% over 2007 Title 24 requirements.
E-3.2: Require the use of recycled materials for 20% of construction materials in all new construction.	Consistent. The proposed project includes recycled-content materials in the foundation, insulation, and landscaping. As stated in this measure, the proposed project would be required to use a minimum of 20% recycled materials as part of the proposed construction. This is required of all new development projects in the City.
E-3.3: Facilitate installation of solar hot water heating systems on commercial and multifamily buildings.	Consistent. The proposed project would pre-plumb and provide conduit for solar water heating. In addition, the project would install a solar water heating system for domestic hot water and pool heating.
E-3.4: Facilitate the installation of solar photovoltaic systems on multifamily residential, commercial, and industrial buildings, and parking lots.	Consistent. The proposed project would install a 0.5-kilowatt KW photovoltaic system.
<i>Water Use and Efficiency</i>	
W-1.1: Reduce per capita water consumption by 30% by 2035.	Consistent. To reduce water use, the proposed project would include low-flow plumbing fixtures consistent with CALGreen building standards and the City’s Green Building Ordinance.
W-1.2: Encourage all automated irrigation systems installed in the City to include a weather-based control system.	Consistent. The irrigation systems installed on the project site would also include a weather-based control system.
<i>Waste Reduction and Recycling</i>	
SW-1.1: Establish a waste reduction target not to exceed 4.0 pounds per person per day.	Consistent. The proposed project would include space for the collection and storage of recyclables. In addition, at least 80% of construction and demolition waste would be diverted in accordance with WHMC Section 19.20.060. The proposed project would be subject to all applicable state and City requirements for solid waste reduction.
<i>Urban Forest</i>	
G-1.1: Increase and enhance the City’s urban forest to capture and store carbon and reduce building energy consumption.	Consistent. The proposed project includes landscaping on the street level, which includes 14 deciduous canopy trees in a minimum 36” box. The proposed project would also preserve two existing trees along Santa Monica Boulevard over 6” in diameter.
G-1.2: Establish a green roof and roof garden program to standardize, promote, and incentivize green roofs and roof gardens throughout the City.	Consistent. The project would also implement an extensive vegetated green roof (50% of roof not occupied by mechanical equipment or access stairs).

As presented in Table 3.4-6, the project is consistent with the applicable CAP reduction measures; therefore, the project would be consistent with the City's climate action reduction measures and would not conflict with the adopted CAP. Additionally, the proposed project would be required to implement Mitigation Measure 3.15-1 from the Final Program EIR for the City's General Plan and CAP (City of West Hollywood 2010). This measure states that to further reduce construction generated-GHG emissions, the project applicant(s) of all project phases shall implement all feasible measures for reducing GHG emissions associated with construction that are recommended by the City and/or SCAQMD at the time individual portions of the site undergo construction.

Prior to releasing each request for bid to contractors for the construction of each development phases, the project applicant(s) shall obtain the most current list of GHG reduction measures that are recommended by the City and stipulate that these measures be implemented in the respective request for bid as well as the subsequent construction contract with the selected primary contractor.

The project applicant(s) for any particular development phase may submit to the City a report that substantiates why specific measures are considered infeasible for construction of that particular development phase and/or at that point in time. The report, including the substantiation for not implementing particular GHG reduction measures, shall be approved by the City prior to the release of a request for bid by the project applicant(s) for seeking a primary contractor to manage the construction of each development. By requiring that the list of feasible measures be established prior to the selection of a primary contractor, this measure requires that the ability of a contractor to effectively implement the selected GHG reduction measures be inherent to the selection process.

The City's recommended measures for reducing construction-related GHG emissions at the time of writing this EIR (2019) are listed as follows. The list will be updated as new technologies or methods become available. The project applicant(s) shall, at a minimum, be required to implement the following to the extent feasible:

- Improve fuel efficiency of construction equipment:
 - Reduce unnecessary idling (modify work practices, install auxiliary power for drive comfort);
 - Perform equipment maintenance (inspections, detect failures early, correction);
 - Train equipment operators in proper use of equipment;
 - Use the proper size of equipment for the job; and
 - Use equipment with new technologies (repowered engines, electric drive trains).
- Use alternative fuels for electricity generators and welders at construction sites such as propane or solar, or use electrical power.

- Use an ARB-approved low-carbon fuel, such as biodiesel, or renewable diesel for construction equipment.
- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Recycle or salvage nonhazardous construction and demolition debris (goal of at least 75% by weight).
- Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk, and curb materials).
- Minimize the amount of concrete used for paved surfaces or use a low carbon concrete option.
- Produce concrete on site if determined to be less emissive than transporting ready mix.
- Use EPA-certified SmartWay trucks for deliveries and equipment transport. Additional information about the SmartWay Transport Partnership Program is available from ARB's Heavy-Duty Vehicle Greenhouse Gas Measure and EPA.
- Develop a plan to efficiently use water for adequate dust control. This may consist of the use of nonpotable water from a local source.

The proposed project would be designed and constructed in accordance with the City's Green Building Ordinance, which would include implementing energy efficient systems and appliances, installing energy efficient lighting, and using water-efficient landscaping, irrigation systems, and water conserving plumbing and fixtures.

Project Consistency with SCAG's 2016 RTP/SCS

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region pursuant to SB 375. In addition to demonstrating the region's ability to attain and exceed the GHG emission-reduction targets set forth by CARB, the 2016 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2016 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use. With regard to individual developments, such as the project, the strategies and policies set forth in the 2016 RTP/SCS can be grouped into the following three categories: (1) reduction of vehicle trips and

VMT; (2) increased use of alternative fuel vehicles; and (3) improved energy efficiency. The project's consistency with these three strategy categories is presented below.

1. Consistency with VMT Reduction Strategies and Policies

The project's consistency with this aspect of the 2016 RTP/SCS is demonstrated via the project's land use characteristics and features that would reduce vehicular trips and VMT, as well as the project's consistency with the regional growth forecast assumed in the 2016 RTP/SCS for the City. As discussed in Section 3.2.5 (Threshold AQ-1), vehicle trip generation and planned development for the project site are concluded to have been anticipated in the SCAG 2016 RTP/SCS growth projections for the project site. Regarding VMT reduction characteristics, the project is an infill, mixed-use development located within the Transit Overlay Zone and the Mixed-Use Incentive Overlay Zone. The nature of the project's land use mix and site location would reduce VMT and associated GHG emissions by being in proximity to complimentary land uses and employment centers, which could encourage use of alternative transportation methods such as transit, walking, or biking, or would result in shorter vehicle trips. In addition, the increase in density compared to average residential development density is associated with VMT reductions.

2. Increased Use of Alternative Fueled Vehicles Policy Initiative

The second goal of the 2016 RTP/SCS, with regard to individual development projects such as the project, is to increase alternative fueled vehicles to reduce per capita GHG emissions. This 2016 RTP/SCS policy initiative focuses on accelerating fleet conversion to electric or other near zero-emission technologies. The project would provide four EV charging spaces (2% of total parking spaces) consistent with the City's the EV charging station requirements in the West Hollywood Municipal Code (WHMC). In addition, the project would designate additional spaces as EV charging spaces capable of supporting future electric vehicle supply equipment in conformance with the WHMC at the time of plan check submittal.

3. Energy Efficiency Strategies and Policies

The third important focus within the 2016 RTP/SCS, for individual developments such as the proposed project, involves improving energy efficiency (e.g., reducing energy consumption) to reduce GHG emissions. The 2016 RTP/SCS goal is to actively encourage and create incentives for energy efficiency, where possible. The project would implement green building design and construction practices capable of achieving Leadership in Energy and Environmental Design (LEED™) Silver certification for the buildings within the project site. The project would promote sustainability, including measures to increase the efficient use of water and energy and the use of renewable resources while decreasing use of nonrenewable energy. As explained in Section 2.0, Project Description, the proposed project is subject to the City's green building program and has completed the required green building checklist. Included in the green building checklist, the

project would install photovoltaic panels, install Energy Star lighting, install Energy Star or cool roofs, provide daylighting, and pre-plumb for solar water heating. In addition, as also explained in Section 2.0, the project would be subject to various mandatory green building measures per City code, including installing Energy Star appliances and providing tenants with a Green Features/Benefits Manual.

Based on the analysis above, the proposed project would be consistent with the SCAG 2016 RTP/SCS.

Project Consistency with the CARB Scoping Plan, SB 32, and EO S-3-05

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California’s GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that “[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan” (CNRA 2009b). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others. The proposed project will comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

As discussed in Section 3.5.2, EO S-3-05 established a goal to reduce statewide GHG emissions to the 1990 level by 2020, and to reduce statewide GHG emissions to 80% below the 1990 level by 2050.⁷ This goal was codified as the emissions targets in the 2017 Climate Change Scoping Plan adopted by CARB in December 2017. The proposed project would support achievement of the EO’s near-term 2020 goal (as codified in AB 32) and the long-term 2050 goal through the project’s compliance with the City’s CAP (see Table 3.4-5 for a discussion of the project’s consistency with the applicable CAP reduction measures).

Because the proposed project would be consistent with the City’s CAP, GHG impacts would be **less than significant**.

⁷ In adopting AB 32, the legislature did not adopt the 2050 horizon-year goal from EO No. S-3-05, and in the last legislative session (2013–2014), the legislature rejected bills proposing to enact the EO’s 2050 goal (*Cleveland National Forest Foundation v. SANDAG* 2014; *Professional Engineers in California Government et al. v. Schwarzenegger and Chiang* 2010; OPR 2004).

3.4.6 Mitigation Measures

Impacts would be less than significant. Although no project-specific mitigation measures are required, the proposed project would be required to implement mitigation measure 3.15-1 from the Final Program EIR for the City's General Plan and CAP. This measure states that to further reduce construction-generated GHG emissions, the project applicant(s) of all project phases shall implement all feasible measures for reducing GHG emissions associated with construction that are recommended by the City and/or SCAQMD at the time individual portions of the site undergo construction. The City's recommended measures for reducing construction-related GHG emissions at the time of writing this EIR (2019) are listed as follows. The list will be updated as new technologies or methods become available. The project applicant(s) shall, at a minimum, be required to implement the following to the extent feasible:

- Improve fuel efficiency of construction equipment:
 - Reduce unnecessary idling (modify work practices, install auxiliary power for drive comfort);
 - Perform equipment maintenance (inspections, detect failures early, correction);
 - Train equipment operators in proper use of equipment;
 - Use the proper size of equipment for the job; and
 - Use equipment with new technologies (repowered engines, electric drive trains).
- Use alternative fuels for electricity generators and welders at construction sites such as propane or solar, or use electrical power.
- Use a CARB-approved low-carbon fuel, such as biodiesel, or renewable diesel for construction equipment.
- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Recycle or salvage nonhazardous construction and demolition debris (goal of at least 75% by weight).
- Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk, and curb materials).
- Minimize the amount of concrete used for paved surfaces or use a low carbon concrete option.
- Produce concrete on site if determined to be less emissive than transporting ready mix.

- Use EPA-certified SmartWay trucks for deliveries and equipment transport. Additional information about the SmartWay Transport Partnership Program is available from CARB’s Heavy-Duty Vehicle Greenhouse Gas Measure and EPA.
- Develop a plan to efficiently use water for adequate dust control. This may consist of the use of nonpotable water from a local source.

3.4.7 Level of Significance After Mitigation

Impacts would be less than significant.

3.4.8 References Cited

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