

4.7 GLOBAL CLIMATE CHANGE

4.7.1 Introduction

This section evaluates potential greenhouse gas (GHG) emissions impacts on global climate associated with the proposed project and identifies mitigation measures as necessary for any potentially significant impacts. This section summarizes information provided in the *Air Quality Analysis* (LSA, June 2013). The *Air Quality Analysis* technical report is included in Appendix D of this Environmental Impact Report (EIR).

Global climate change (GCC) describes alterations in weather features (e.g., temperature, wind patterns, precipitation, and storms) that occur across the Earth as a whole. Global temperatures are modulated by naturally occurring components in the atmosphere (e.g., water vapor, carbon dioxide [CO₂], methane [CH₄], and nitrous oxide [N₂O]) that capture heat radiated from the Earth's surface, which, in turn, warms the atmosphere. This natural phenomenon is known as the "greenhouse effect."

4.7.2 Methodology

This analysis of GHGs provides a discussion of the physical setting of the La Entrada Specific Plan (proposed project) area, as well as the existing global climate setting, the regulatory framework for GCC, and the potential global climate-related emissions associated with the proposed project. Modeled project emissions are based on project design, projected energy and resource use on site,¹ construction emissions, vehicle data, and the project trip generation estimate.

The climate change analysis includes estimated GHG emissions associated with short-term construction and long-term operation of the proposed project. This analysis has been prepared based on the Riverside County Guidelines, which the City of Coachella follows, and to satisfy the requirements for disclosure of potential impacts and mitigation measures per the California Environmental Quality Act (CEQA). The Riverside County Guidelines require analysis of existing conditions, project completion conditions, and cumulative conditions at build out of the project. For General Plan Amendments and Specific Plans, a horizon year analysis is also required. The La Entrada Specific Plan is anticipated to be fully built by year 2035, which is also the County's horizon year scenario. Therefore, cumulative conditions and build-out conditions are the same for this analysis.

The construction impact analysis includes activities that produce combustion emissions from sources such as site grading, utility engines, on-site heavy-duty construction vehicles, asphalt paving, and motor vehicles transporting the construction crew. Project construction would include demolition of miscellaneous minor structures and old roadways, site preparation and grading operations, and construction of the new structures and infrastructure on and off site that would include paving

¹ Consistent with *CEQA Guidelines* Appendix F.

operations. The construction emissions estimates also include the off-site traffic intersection mitigation improvements.

The long-term project operations impact analysis includes air emissions from the proposed mix of residential and commercial land uses. GHGs would be emitted by area sources such as consumer products and landscaping maintenance performed on the project site, from energy sources including natural gas consumption for heating and electricity for the lighting in the buildings and at outdoor areas, and from mobile sources (vehicles associated with the proposed residential and commercial land uses, both internal to the project site and external to and from off-site destinations and origins).

As described below, the emissions from vehicle exhaust comprise approximately 58 percent of the total GCC-related emissions (GHG emissions) from this project; however, vehicle emissions standards are regulated by the State and federal governments and are largely outside the control of this project, although to some small degree, the vehicle miles traveled (VMT) can be minimized by local land use controls. The remaining 42 percent of the proposed project's emissions would be related to energy/natural gas use, area sources (i.e., architectural coatings and carpet systems), water use, and solid waste disposal. State law defines GHGs to include the following: CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (Health and Safety Code, Section 38505(g)). The most common GHGs that result from human activity are CO₂, CH₄, and N₂O.

Evaluation of the proposed project's contribution to GHG emissions was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the South Coast Air Quality Management District (SCAQMD) *California Environmental Quality Act (CEQA) Air Quality Guidelines* (October 1993). Air quality data posted on the California Air Resources Board (ARB) and United States Environmental Protection Agency (EPA) websites are included to document the local air quality environment.

There are several unique challenges to analyzing GCC under CEQA, largely because of its "global" nature. Typical CEQA analyses address local actions that have local, or at most, regional effects, whereas GCC presents the considerable challenge of analyzing the relationship between emissions from an individual project and emissions from activities spread all over the planet with the potential for impacts that are by definition, global. Most environmental impact analyses examine the "project-specific" impacts that a particular project is likely to generate. With regard to GCC, however, it is generally accepted that the magnitude of GCC effects is so substantial and the contribution of an individual project to the climate so extremely miniscule that direct significant adverse impacts (albeit not necessarily cumulative significant adverse impacts) would be highly unlikely.

The issue of GHG emissions and GCC is also fundamentally different from any other area of air quality impact analyses, which are all linked to some region or area in which the impact is significant. Instead, a GCC analysis must be conducted on a global level, rather than the typical local or regional setting, and requires consideration of not only emissions from the project under consideration, but also the extent of the displacement, translocation, and redistribution of emissions. In that context, air quality is linked to a particular location or area, and it is appropriate to consider the creation of new emissions in that area to be an environmental impact whether or not the emissions are truly "new" emissions to the overall globe. In fact, the approval of a new development plan or project does not necessarily create new automobile drivers, the primary source of a land use project's emissions,

Rather, new land use projects merely redistribute existing mobile emissions;¹ accordingly, the use of models that measure overall emissions increases without accounting for existing emissions would substantially overstate the impact of the development project on global climate. Overstating the impacts can lead to a misallocation of resources in seeking solutions to GHG emissions substantially different from other air quality impacts, where the “addition” of redistributed emissions to a new locale can make a substantial difference to overall air quality.

Nevertheless, the Office of Planning and Research (OPR) published a recommended approach for GHG analyses in June 2008: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on GCC, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact below a level of significance.² The June 2008 OPR guidance provides some additional direction regarding planning documents as follows:

CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation. For local government Lead Agencies, adoption of General Plan policies and certification of General Plan Environmental Impact Reports (EIRs) that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews.

Preliminary guidance from OPR³ and recent letters from the Attorney General⁴ critical of CEQA documents that have taken different approaches indicate that Lead Agencies should calculate, or estimate, project-related emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. In addition, SCAQMD recommends that direct, indirect, and, if available, life cycle emissions during project construction and operation be calculated. Therefore, GHG emissions have been calculated in this section for the proposed project.

It must be noted that there is great disagreement within the scientific community on any given approach. This EIR cannot, and need not, under CEQA, review every report from an expert or agency, especially since new reports are released on an almost daily basis. The preparation of this EIR did include review of multiple key advisories, comment letters, and white papers from experts, agencies, and groups such as the Climate Action Team, the California Attorney General, the

¹ For example, a subdivision of 500 homes generates approximately 3,000 new trips per day; those trips would be added to the local streets and intersections and could have local traffic, air quality, and other environmental impacts. In the case of GCC, the trips that are associated with those same 500 homes presumably emit roughly the same volume of greenhouse gases as they would if they were traveling the same miles at any other location. As a result, a methodology which assumes that raw vehicle trip counts occurring within a project area will accurately predict change in global climate conditions as reliably as they will predict congestion at intersections is seriously flawed.

² State of California. 2008. Governor’s Office of Planning and Research. *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review*. June 18.

³ Office of Planning and Research (OPR). *Technical Advisory on CEQA and Climate Change*, June 19, 2008.

⁴ California Department of Justice website, <http://oag.ca.gov/environment/ceqa/letters>, accessed February 5, 2013.

California Air Pollution Control Officer's Association (CAPCOA), ARB, SCAQMD, the Center for Biological Diversity, the Sierra Club, and the California Chapter of the American Planning Association. Some of these reports urge "zero emissions" thresholds, while others advocate against them. Others evaluate multiple thresholds, such as SCAQMD's draft interim Tiered GHG Threshold (explained in Section 4.7.8). In order to allow this EIR to reach a GCC impact conclusion, and in the absence of any adopted emissions threshold, the SCAQMD draft interim Tiered GHG Threshold will be used.

4.7.3 Existing Environmental Setting

GCC is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (such as precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but GCC is preferred to global warming because it helps convey that there are other changes in addition to rising temperatures. For this GCC analysis, the baseline condition is the on-the-ground conditions at the project site at the time of the release of the Notice of Preparation (NOP).

GCC refers to any change in measures of weather (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). GCC may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric¹ temperature of 0.36 degree Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, and changes in wind patterns or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento Delta.

Global surface temperatures have risen by $1.33^{\circ}\text{F} \pm 0.32^{\circ}\text{F}$ over the last 100 years (1906–2005). The rate of warming over the last 50 years is almost double that over the last 100 years.² The latest projections, based on state-of-the-art climate models, indicate that temperatures in California are expected to rise 3–10.5°F by the end of the century.³ The prevailing scientific opinion on GCC is that "...most of the warming observed over the last 50 years is attributable to human activities."⁴ Increased amounts of CO₂ and other GHGs are the primary causes of the human-induced component

¹ The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

² Intergovernmental Panel on Climate Change (IPCC). 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

³ California Climate Change Center. 2006. *Our Changing Climate. Assessing the Risks to California.* July.

⁴ IPCC, *Climate Change 2007: The Physical Science Basis*, <http://www.ipcc.ch>.

of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.¹

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC² are: CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆.

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. The prevailing political/scientific opinion is that these extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While GHGs produced by human activities include naturally occurring GHGs such as CO₂, CH₄, and N₂O, some gases, such as HFCs, PFCs, and SF₆, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere as compared to the GHGs that remain in the atmosphere for substantial periods of time, thereby contributing to GCC in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this analysis, the term “GHGs” will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential, which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The global warming potential of each gas is measured relative to CO₂, the most abundant GHG. The definition of global warming potential for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e). CO₂e is a quantity that describes, for a given GHG, the amount of CO₂ that would have the same global warming potential when measured over a specific time scale. Table 4.7.A shows the global warming potential for each type of GHG. For example, SF₆ is 22,800 times more potent at contributing to global warming than CO₂.

4.7.4 Primary Greenhouse Gases

The following discussion summarizes the characteristics of the six primary GHGs: CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆O.

¹ The temperature on Earth is regulated by a system commonly known as the “greenhouse effect.” Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, GHGs like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

² The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

Table 4.7.A: Global Warming Potential of Greenhouse Gases

| Gas | Atmospheric Lifetime (Years) | Global Warming Potential (100-year Time Horizon) |
|---|------------------------------|--|
| Carbon Dioxide (CO ₂) | 50–200 | 1 |
| Methane (CH ₄) | 12 | 25 |
| Nitrous Oxide (N ₂ O) | 114 | 298 |
| HFC-23 | 270 | 14,800 |
| HFC-134a | 14 | 1,430 |
| HFC-152a | 1.4 | 124 |
| PFC: Tetrafluoromethane (CF ₄) | 50,000 | 7,390 |
| PFC: Hexafluoromethane (C ₂ F ₆) | 10,000 | 12,200 |
| Sulfur Hexafluoride (SF ₆) | 3,200 | 22,800 |

Source: *Air Quality Analysis*, LSA Associates, Inc. (June 2013).
 HFC = hydrofluorocarbons
 PFC = perfluorocarbons

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO₂ are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO₂ to the atmosphere. Natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO₂; consequently, the gas is building up in the atmosphere. The concentration of CO₂ in the atmosphere has risen approximately 30 percent since the late 1800s.¹

In 2002, CO₂ emissions from fossil fuel combustion accounted for approximately 98 percent of human-made CO₂ emissions and approximately 84 percent of California’s overall GHG emissions (CO₂e). The transportation sector accounted for California’s largest portion of CO₂ emissions, with gasoline consumption making up the greatest portion of these emissions. Electricity generation was California’s second-largest category of GHG emissions.

Methane. CH₄ is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (burning of coal, oil, natural gas, etc.). Decomposition occurring in landfills accounts for the majority of human-generated CH₄ emissions in California, followed by enteric fermentation (emissions from the digestive processes of livestock).² Agricultural processes such as manure management and rice cultivation are also substantial sources of human-made CH₄ in California. CH₄ accounted for

¹ California Environmental Protection Agency (Cal/EPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

² California Air Resources Board (ARB), Greenhouse Gas Inventory Data – 1990 to 2004, <http://www.arb.ca.gov/cc/inventory/data/data.htm>, accessed November 2008.

approximately 6 percent of gross GCC emissions (CO₂e) in California in 2002.¹ It is estimated that over 60 percent of global methane emissions are related to human-related activities.² As with CO₂, the major removal process of atmospheric CH₄, a chemical breakdown in the atmosphere, cannot keep pace with source emissions, and CH₄ concentrations in the atmosphere are increasing.

Nitrous Oxide. N₂O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N₂O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N₂O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in California. N₂O emissions accounted for nearly 7 percent of human-made GHG emissions (CO₂e) in California in 2002.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone (O₃) depleting substances regulated under the Montreal Protocol.³ PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry, which is active in California, leads to greater use of PFCs, HFCs, PFCs, and SF₆ accounted for approximately 3.5 percent of human-made GHG emissions (CO₂e) in California in 2002.⁴

4.7.5 Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks (a sink is a natural or artificial reservoir that accumulates or stores a compound) of GHGs is a well-recognized and useful tool for addressing GCC. This section summarizes the latest information on global, national, California, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (refer to Table 4.7.A, provided earlier), accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

¹ California Air Resources Board (ARB), Greenhouse Gas Inventory Data – 1990 to 2004, <http://www.arb.ca.gov/cc/inventory/data/data.htm>, accessed November 2008.

² IPCC. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.

³ The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

⁴ California Environmental Protection Agency (Cal/EPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

Global Emissions. The International Energy Agency (IEA)¹ reports that worldwide emissions of CO₂e in 2010 were 30.6 billion metric tons (MT). Global estimates are based on country inventories developed as part of programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions. In 2010, the United States emitted approximately 6.8 billion MT of CO₂e. Of the six economic sectors nationwide (electrical power industry, transportation, industry, agricultural, commercial, and residential), the electrical power industry and transportation sectors combined account for the highest amount of GHG emissions (approximately 62 percent). These emissions are entirely generated from direct fossil fuel combustion. Overall, from 1990 and 2010, total United States GHG emissions rose approximately 11.9 percent.²

State of California Emissions. According to ARB emission inventory estimates, California emitted approximately 453 million metric tons³ of CO₂e (MMTCO₂e) emissions in 2009.⁴ Emissions in 2009 decreased by 5.8 percent from 2008. The year 2009 reflected the full effect of the economic recession and higher fuel prices, with marked declines in on-road transportation, cement production, and electricity consumption. Nevertheless, this large number is due primarily to the sheer size of California compared to other states. By contrast, California has the fourth-lowest per-capita CO₂ emission rate from fossil fuel combustion in the country due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise.⁵

The California Environmental Protection Agency (Cal/EPA) Climate Action Team stated in its March 2006 report that the composition of gross GCC pollutant emissions in California in 2002 (expressed in terms of CO₂e) was as follows:

- CO₂ accounted for 83.3 percent
- CH₄ accounted for 6.4 percent
- N₂O accounted for 6.8 percent
- HFCs, PFC, and SF₆ accounted for 3.5 percent⁶

¹ <http://www.iea.org>.

² EPA, 2012. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2010*. <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>, accessed November 2012.

³ A metric ton is equivalent to approximately 1.1 tons.

⁴ California Air Resources Board, Greenhouse Gas Inventory Data – 1990 to 2009. <http://www.arb.ca.gov/cc/inventory/data/data.htm>, accessed January 2013.

⁵ California Energy Commission. 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 – Final Staff Report*, publication No. CEC-600-2006-013-SF, Sacramento, CA, December 22, 2006; and January 23, 2007 update to that report.

⁶ California Environmental Protection Agency (Cal/EPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

The ARB estimates that transportation is the source of approximately 38 percent of the State's GHG emissions in 2004, followed by electricity generation (both in State and out of State) at 23 percent, and industrial sources at 20 percent. The remaining sources of GHG emissions are residential and commercial activities at 9 percent, agriculture at 6 percent, high global warming potential gases at 3 percent, and recycling and waste at 1 percent.¹

The ARB is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities within the State of California and supports the Assembly Bill (AB) 32 Climate Change Program. The current ARB GHG emission inventory covers the years 2000–2010 and is based on categories defined in the Scoping Plan, including transportation, electric power, commercial and residential, industrial, recycling and waste, high global warming potential (GWP), agriculture, and forestry.

The ARB has projected that statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, will be 596 MMT of CO₂e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase, but remain at approximately 38 percent and 23 percent of total CO₂e emissions, respectively. The industrial sector consists of large stationary sources of GHG emissions, and the percentage of the total 2020 emissions is projected to be 17 percent of total CO₂e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 8 percent, residential and commercial activities at 8 percent, agriculture at 5 percent, and recycling and waste at 1 percent.²

Regional Emissions. Existing GHG emissions for the Southern California Association of Governments (SCAG) region were calculated for construction sources, mobile sources, natural gas consumption, and electricity generation. GHG emissions for 2009 were estimated to be approximately 176.79 MMT of CO₂e. Transportation and energy (i.e., electricity use and natural gas consumption) accounted for approximately 47 and 52 percent of emissions, respectively. Construction activity accounted for approximately 1 percent of the GHG emissions.

4.7.6 Regulatory Setting

Federal Policies and Regulations.

Kyoto Protocol. The United States participated in the UNFCCC (signed on March 21, 1994). The Kyoto Protocol is a treaty reached under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. Although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol, and the United States is not bound by the Protocol's commitments.

¹ California Air Resources Board (ARB). 2008. <http://www.climatechange.ca.gov/inventory/index.html>. September.

² Ibid.

The goal of the Protocol was to achieve overall emissions reduction targets for six GHGs by the period of 2008 to 2012. The six GHGs regulated under the Protocol are CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. Each nation has an emissions reduction target to reduce GHG emissions a certain percentage below 1990 levels (e.g., 8 percent reduction for the European Union, 6 percent reduction for Japan). The average reduction target for nations participating in the Kyoto Protocol is approximately 5 percent below 1990 levels. Many subsequent measures are tied to these Kyoto Protocol commitments.

United States Climate Policy and Actions. The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. In February 2002, the United States government announced a comprehensive strategy to reduce the GHG intensity of the American economy by 18 percent over the 10-year period from 2002 to 2012. GHG intensity measures the ratio of GHG emissions to economic output.

Recent statutory authority has been granted to the EPA that may change the voluntary approach taken to address the GCC issue. On April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO₂ emissions under the federal Clean Air Act of 1970 (CAA). Consequently, it is anticipated that further regulation of GHG emissions on a national level by the EPA is forthcoming.

EPA ENERGY STAR and WaterSense Programs. ENERGY STAR is a joint program of the EPA and the United States Department of Energy (DOE) that is focused on reducing costs and increasing environmental protections through the promotion of energy-efficient products and practices. In 1992, the EPA introduced ENERGY STAR as a voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. Computers and monitors were the first labeled products. Through 1995, EPA expanded the label to additional office equipment products and residential heating and cooling equipment. In 1996, EPA partnered with the DOE for particular product categories. The ENERGY STAR label is now on major appliances, office equipment, lighting, home electronics, and more. The EPA has also extended the label to cover new homes and commercial and industrial buildings.

Due to the high energy cost associated with water treatment, water conservation is an important method of reducing GHG emissions. WaterSense, a partnership program sponsored by the EPA, seeks to protect the future of the nation's water supply by promoting water efficiency and enhancing the market for water-efficient products, programs, and practices. WaterSense helps consumers identify water-efficient products and programs. The WaterSense label indicates that these products and programs meet water efficiency and performance criteria. WaterSense-labeled products will perform well, help save money, and encourage innovation in manufacturing. WaterSense is partnering with irrigation professionals and irrigation certification programs to promote water-efficient landscape irrigation practices. WaterSense is also partnering with manufacturers, retailers, distributors, and utilities to bring WaterSense products to the marketplace and make it easy to purchase high-performing, water-efficient products.

Clean Air Act of 1970. The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO₂ emissions under the CAA. The EPA commenced several actions in 2009 that implement a regulatory approach to GCC. Specifically, on September 30, 2009, the EPA announced a proposal that focuses on large facilities emitting over 25,000 tons of GHG emissions per year. The rule was finalized on August 2, 2010, and requires facilities to obtain permits that demonstrate they are using the best available control technologies (BACT) to minimize GHG emissions.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (i.e., CO₂, CH₄, N₂O, HFCs, PFCs, SF₆) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to GCC. This EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles mentioned below.

On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. EPA is finalizing the first-ever national GHG emissions standards under the CAA, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg).

State Policies and Regulations.

Title 24 (California Energy Code and Green Building Standards Code). Title 24 is the 24th title within the California Code of Regulations (CCR). The CCR is divided into 28 separate titles numbered 1 through 28, each based on subjects or State agency jurisdiction. The provisions of Title 24 (2010 edition) include requirements for the structural, plumbing, electrical, and mechanical systems of buildings and for fire and life safety, energy conservation, green design, and accessibility in and about buildings. The Energy Efficiency Standards for Residential and Nonresidential Buildings, commonly referred to as the California Energy Code, are Part 6 of Title 24. The California Green Building Standards Code, also called the CALGreen Code, is Part 11 of Title 24. All new projects in California are required to meet these standards. The California Energy Commission (CEC) adopted the current 2008 California Energy Code Standards on April 23, 2008. California's building efficiency standards are updated on an approximately 3-year cycle. The 2013 Standards under development will continue to improve on the 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2013 Standards will go into effect on January 1, 2014, following approval by the California Building Standards Commission. The California Building Standards Commission adopted the most recent CALGreen Code in 2010, which became effective on January 1, 2011.

The California Energy Code includes Mandatory Measures that are required to be implemented on all new construction projects and consist of a wide array of energy-saving measures concerning project site design, water use reduction, improvement of indoor air quality, and conservation of materials and resources. The California Energy Code encourages 15 percent

energy use reduction over that required in Part 6. The draft 2013 California Energy Code adds optional, more stringent Voluntary Measures that may be used by jurisdictions that strive to enhance their commitment toward energy efficient and sustainable design and achievement of AB 32 goals. Under Tiers I and II, all new construction projects are required to reduce energy consumption by 15 percent and 30 percent, respectively, below the baseline required under the California Energy Code, as well as implement more stringent green measures than those required by mandatory code.

Assembly Bill 1493 (Pavley). In a response to the transportation sector's significant contribution to California's CO₂ emissions, AB 1493 (Pavley) was enacted on July 22, 2002. AB 1493 requires the ARB to set GHG emission standards for passenger vehicles and light-duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. To set its own GHG emissions limits on motor vehicles, California must receive a waiver from the EPA. On June 30, 2009, the EPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Notice of the decision was published in the Federal Register on July 8, 2009.

Assembly Bill 32. California's major initiatives for reducing GHG emissions are outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006, the 2005 Executive Order (EO) discussed below, and a 2004 ARB regulation to reduce passenger car GHG emissions. The AB 32 statute begins with several legislative findings and declarations of intent, including the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (Health and Safety Code, Section 38501)

The State goal is to reduce GHG emissions to 1990 levels by 2020. The ARB has established the level of GHG emissions in 1990 at 427 MMTCO₂e. The emissions target of 427 MMTCO₂e requires the reduction of 169 MMTCO₂e, a reduction of approximately 25 percent, from the State's projected business-as-usual¹ 2020 emissions of 596 MMTCO₂e.

AB 32 requires the ARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to GCC. The Scoping Plan was approved by the ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among

¹ "Business-as-usual" is defined as the set of conditions reasonably expected to occur within the project boundary in the absence of financial incentives provided by offset credits, taking into account all current laws and regulations as well as current economic and technological trends (CCR, Subchapter 10, Article 5).

other measures.¹ Emission reductions that are projected to result from the recommended measures in the Scoping Plan are expected to total 174 MMTCO₂e, which would allow California to attain the emissions goal of 427 MMTCO₂e by 2020. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan, even after Board approval, remains a recommendation. The measures in the Scoping Plan will not be binding until after they are adopted through the normal rulemaking process. The ARB rulemaking process includes preparation and release of each of the draft measures, public input through workshops, and a public comment period, followed by an ARB Board hearing and rule adoption.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the ARB and the newly created Climate Action Team² to identify a list of "...discrete early action GHG reduction measures..." that can be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed EO S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard (LCFS). This EO sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the ARB to consider the LCFS as a discrete early action measure.

In June 2007, the ARB approved a list of 37 early action measures, including three discrete early action measures (LCFS, Restrictions on High Global Warming Potential Refrigerants, and Landfill Methane Capture). Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code (HSC) Section 38560.5. The ARB adopted additional early action measures in October 2007³ that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF₆ reductions from the nonelectricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMTCO₂e.⁴

AB 32 required the ARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which became effective on January 1, 2012. In addition, ARB adopted a market-based cap and trade system in 2012. AB 32 does not identify a numeric significance level of GHG for CEQA purposes, nor has the ARB adopted such a significance threshold.

¹ California Air Resources Board (ARB). 2008. *Climate Change Proposed Scoping Plan: a Framework for Change*. October.

² The Climate Action Team is a consortium of representatives from State agencies who have been charged with coordinating and implementing GHG emission reduction programs that fall outside of ARB's jurisdiction.

³ California Air Resources Board (ARB). 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

⁴ California Air Resources Board (ARB). 2007. "ARB approves tripling of early action measures required under AB 32." News Release 07-46. <http://www.arb.ca.gov/newsrel/nr102507.htm>. October 25.

AB 32 also requires the ARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to GCC. The Scoping Plan was approved by the ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Emission reductions that are projected to result from the recommended measures in the Scoping Plan are expected to total 174 MMTCO₂e, which would allow California to attain the emissions goal of 427 MMTCO₂e by 2020. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan, even after Board approval, remains a recommendation. The measures in the Scoping Plan will not be binding until after they are adopted through the normal ARB rulemaking process described earlier.

Executive Order S-03-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in EO S-3-05. The EO established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. Furthermore, EO S-03-05 requires the Secretary of Cal/EPA to evaluate the impacts of GCC and establish mitigation measures that would reduce potential impacts.

Executive Order S-01-07. EO S-01-07 was put forth by Governor Arnold Schwarzenegger on January 18, 2007. California further solidified its dedication to reducing GHGs above what was intended in EO S-03-05 by setting a new LCFS for transportation fuels sold within the State. EO S-1-07 sets a declining standard 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 percent by 2020. Essentially, the order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that an LCFS for transportation fuels be established for California.

Senate Bill 97. To address GHG emission and GCC in General Plans and CEQA documents, Senate Bill (SB) 97 (Chapter 185, 2007) requires the OPR to develop CEQA guidelines on how to address global warming emissions and mitigate project-specific GHG. OPR was required to prepare, develop, and transmit these guidelines on or before July 1, 2009. As described below, OPR has issued a Technical Advisory¹ in advance of developing amendments to the *CEQA Guidelines* and proposed draft amendments to the *CEQA Guidelines*. OPR adopted amendments to the *CEQA Guidelines* related to GCC and GHGs in December 2009.

¹ A Technical Advisory, in this context, is defined by OPR as technical advice issued from time to time to provide guidance on implementing issues that broadly affect the practice of CEQA and land use planning.

Senate Bill 375. SB 375, which was signed into law on October 1, 2008, provides emissions reduction goals and incentives for local governments and developers to follow new conscientiously planned growth patterns in order to reduce GHG emissions. SB 375 enhances the ARB's ability to reach AB 32 goals by directing the ARB to develop regional GHG emission reduction targets to be achieved by the automobile and light truck sectors for 2020 and 2035. The ARB will also work with California's 18 metropolitan planning organizations to align their regional transportation, housing, and land use plans; prepare a "sustainable communities strategy" to reduce the number of VMT in their respective regions; and demonstrate the region's ability to attain its GHG reduction targets.

Office of Planning and Research Guidelines. OPR issued a Technical Advisory titled "CEQA and Climate Change: Addressing Climate Change Through CEQA Review" on June 18, 2008. The Technical Advisory was intended as a guide to planners and CEQA practitioners for addressing GCC in CEQA documents. The Technical Advisory noted that the CEQA statutes and the *CEQA Guidelines* do not prescribe numeric thresholds of significance or particular methodologies for performing an impact analysis. However, even in the absence of clearly defined thresholds for GHG emissions, the emissions from projects must be disclosed. OPR identified three basic steps for the GHG approach in CEQA documents: (1) identify and quantify the GHG emissions; (2) assess the significance of the impact on GCC; and (3) if the impact is found to be significant, identify alternatives and/or mitigation measures that will reduce the impact below significance.

As noted earlier, OPR adopted amendments to the *CEQA Guidelines* regarding GCC and GHGs in December 2009. The amendments were prepared by OPR in collaboration with the California Resources Agency, Cal/EPA, and the ARB.

Assembly Bill 75 Waste Diversion. AB 75 was passed in 1999, and the State Agency Model Integrated Waste Management Act (Chapter 764, Statutes of 1999, Strom-Martin) took effect on January 1, 2000. This bill added new provisions to the Public Resources Code (PRC), mandating that State agencies develop and implement an Integrated Waste Management Plan (IWMP). AB 75 also mandated that community service districts providing solid waste services report disposal and diversion information to the city, county, or regional agency in which the community service district is located. Among other things, AB 75 established the requirement to divert at least 25 percent of their solid waste from landfills or transformation facilities by January 1, 2002, and divert 50 percent on and after January 1, 2004.

Local and Regional Plans and Policies.

City of Coachella General Plan. Although the City is in the process of updating its General Plan and will incorporate a Climate Action Plan (CAP), at the time of this study none of the updated goals or policies related to a CAP are not yet adopted. The City's 1996 General Plan 2020 does not include any specific GHG or GCC policies or goals; however, a number of the General Plan goals, objectives, policies, and programs will result in an indirect reduction in GHG emissions

through reductions in vehicle trips, vehicle miles traveled, and energy use. Therefore, the proposed project has been analyzed to determine consistency with these goals and policies.

SCAG Regional Transportation Plan/Sustainable Communities Strategy. On April 4, 2012, the Regional Council of the SCAG adopted the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): *Toward a Sustainable Future*. The RTP/SCS is the culmination of a multiyear effort involving stakeholders from across the SCAG region. The SCS integrates land use and transportation strategies to achieve ARB’s per-capita GHG emission reduction targets from passenger vehicles for the SCAG region of 8 percent below 2005 per-capita emissions levels by 2020, and 13 percent below 2005 per-capita emissions levels by 2035.

4.7.7 Project Design Features

As summarized in Chapter 3.0, Project Description, Section 3.9.7, the proposed Specific Plan includes components that are referred to as Project Design Features. Project Design Features related to GCC are:

- The Specific Plan development is proposed to be phased, with the initial Phase 1 grading limited to the area necessary to achieve mass balancing and proper drainage of the overall property, leaving the greater majority of the site in its current condition until such time the remaining phases begin to develop. This phased development would reduce the overall area being disturbed at any one time and would reduce the overall annual grading emissions.
- The project’s sustainability strategies commit to use of solar photovoltaic panels on a minimum of 25 percent of homes and businesses, and promoting green building techniques in excess of Title 24 requirements, thereby reducing GHG emissions associated with energy usage.
- The project provides for a mix of residential and employment uses, as well as nonvehicular circulation such as bike and pedestrian trails, the development of public and individual non-GHG emitting transportation alternatives serving to reduce VMT and associated air emissions.

4.7.8 Thresholds of Significance

The following thresholds of significance criteria 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 GCC if it would:

Threshold 4.7.1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

Threshold 4.7.2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As previously discussed in the OPR Guidelines section, the CEQA statutes and OPR guidelines do not prescribe numeric thresholds of significance or a particular method for performing an impact analysis. As with most environmental topics, significance criteria are left to the judgment and

discretion of the Lead Agency. Although there are no formally adopted significance thresholds for GHG emissions/GCC impacts, this analysis uses a proposed draft interim method for determining significance of proposed projects' GHG emissions and contributions to GCC from a SCAQMD GHG Working Group. The proposed interim method utilizes a tiered mechanism, as described below.

A proposed project would be evaluated against the tiers and a determination made as to which tier would be the most appropriate for the individual project. For example, if a project is exempt from CEQA, Tier 1 would be the most appropriate tier and the project effects related to GHG emissions/GCC would be less than significant and the analysis is complete.

If not exempt and there is a local GHG reduction plan in place, then Tier 2 would be the most appropriate tier. If the project is consistent with that plan, then the project effects related to GHG emissions/GCC would be less than significant and the analysis is complete. If the project is not consistent with the plan, then the project would have a significant impact related to GHG emissions/GCC and the analysis would be complete.

If there is no local GHG reduction plan, Tier 3 is used to screen for smaller projects. If the project emissions are less than the applicable numerical threshold (see below), then the project effects related to GHG emissions/GCC would be less than significant and the analysis is complete. If the project exceeds the numerical threshold, then the project is analyzed using Tier 4.

If the project emissions are less than the applicable Tier 4 performance-based threshold, then the project would have less than significant impacts related to GHG emissions/GCC and the analysis is complete. If the project exceeds both the Tier 3 and Tier 4 thresholds, then the project would have a significant impact related to GHG emissions/GCC and the analysis is complete.

Tier 5 is not a threshold, but rather specifies that a project include all feasible on- and off-site measures to reduce GHG emissions as well as financially supporting independent projects that have a net reduction in GHG emissions.

- **Tier 1:** Does the project qualify for any applicable exemption under CEQA? If the project qualifies for an exemption, no further action is required.
- **Tier 2:** Is the project consistent with a GHG reduction plan which must, at a minimum, comply with AB 32 GHG reduction goals; include an emissions inventory agreed upon by either ARB or the SCAQMD, have been analyzed under CEQA and have a certified Final CEQA document, and have monitoring and enforcement components? If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions.
- **Tier 3:** Does the project exceed the applicable GHG screening threshold: Industrial (when SCAQMD is the Lead Agency): 10,000 tons per year (tpy) CO₂e; Residential: 3,500 tpy CO₂e; Commercial: 1,400 tpy CO₂e; Mixed-use: 3,000 tpy CO₂e? If a project's GHG emissions exceed the GHG screening threshold, the project would be analyzed under Tier 4.

- **Tier 4:** Does the project include design features and/or implement GHG mitigation measures sufficient to meet the following?
 - **Efficiency Target (2020 Targets)**
 - 4.8 metric tons (MT) CO₂e per service population (SP) for project level threshold (land use emissions only) and total residual emissions not to exceed 25,000 MMTCO₂e
 - 6.6 MT CO₂e per SP for plan level threshold (all sectors)
 - **Efficiency Target (2035 Targets)**
 - 3.0 MT CO₂e per SP for project level threshold
 - 4.1 MT CO₂e per SP for plan level threshold

If the lead agency or project proponent cannot achieve the performance standards on any of the compliance options in Tier 4, the project related GHG emissions would be considered significant.

- **Tier 5:** Will the project implement on- and off-site GHG mitigation to include financially supporting net GHG-reducing projects sufficient to reduce GHG emission impacts for the life of the project (30 years) to less than the applicable GHG screening threshold level?

4.7.9 Sustainability Features

As provided in Chapter 3.0, Project Description, Section 3.5.3, the Specific Plan, Section 2.3, includes Sustainable Community Design Strategies, referred to in this EIR as Sustainability Features. The climate change analysis includes the following energy efficiency and sustainability features for the proposed project that factor into the analysis of GHG emissions levels presented in the following sections.

- **Land Use:** Design of the project site would concentrate development in lower areas of the project site in an effort to minimize grading and reduce energy to supply infrastructure services in these regions while allowing areas of higher elevations to remain as open space areas. In addition, the proposed project would encourage nonvehicular transportation by providing a variety of pedestrian, bicycle, and NEV pathways throughout the site. The proposed project would also work with site constraints by prohibiting development within floodplains and allowing these areas to serve as buffers and passive recreational areas. Areas suitable for development would be maximized by allowing for multigenerational, and/or secondary housing units, and mixed-use development.
- **Walkability/Mobility:** The proposed project would encourage walkability/mobility by providing wide pedestrian pathways and sidewalks, designing development to provide an attractive pedestrian environment (i.e., storefronts set back from street, facades with large windows fronting the street, and street furniture, orienting parking to the side or back of buildings), and allowing public uses to be within walking distance of residential neighborhoods. In addition, the proposed project would reduce transportation-related greenhouse gas emissions by integrating the proposed project with existing public transportation infrastructure, including bicycle paths and storage facilities to encourage nonvehicular modes of travel.

- **Solar Orientation:** The proposed project would maximize the site layout to allow for the most advantageous solar orientation for all development. In addition, the proposed project would promote building orientation that would maximize exposure to daylight, shade south-facing windows to reduce heat gain into buildings, minimize east- and west-facing windows unless shaded, and place landscaping to provide shading and wind protection.
- **Energy Efficiency:** The proposed project would also encourage energy efficiency by designing development in accordance with United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED), GreenPoint Standards, and installing light-emitting diode (LED) lighting, energy-efficient appliances, solar/photovoltaic systems on 25 percent of the residences/businesses within the site, and energy-efficient lighting.
- **Materials Efficiency:** The proposed project would encourage sustainability by utilizing renewable, recycled, locally sourced, sustainable materials, as well as materials with little to no volatile organic compounds (VOCs). In addition, the proposed project would incorporate separation of solid wastes to achieve a goal of 75 percent diversion of construction solid wastes to landfills.
- **Water Efficiency:** The proposed project would encourage water efficiency and reduce potable water demand by utilizing reclaimed water for irrigation purposes, when available, installing high-efficiency plumbing and appliances that meet or exceed the CALGreen code and reduce the amount of irrigated turf. In addition, the proposed project would implement a storm water collection and conveyance system to treat runoff, provide protection within floodplains, and improve water quality. Furthermore, the proposed project would reduce water quality impacts by supporting the development of reclaimed water supplies in the City.
- **Landscape Design/Low Impact Development:** The proposed project would increase access to fresh produce through the promotion of community-based food production by enforcing covenants, conditions, and restrictions within planned communities that do not prohibit local food production, encourage neighborhood gardens, encourage community-supported agricultural uses, and/or promote a Farmer's Market within the project site. In addition, the proposed project would utilize native plants, utilize landscaping to shade areas to reduce greenhouse gas emissions, landscape streets to encourage walking and biking while reducing the potential for an urban heat island effect, and incorporate drought-tolerant landscaping to minimize the impact on the environment associated with development of the proposed project.

4.7.10 Project Impacts

Threshold 4.7.1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

- **Tier 1:** Does the project qualify for any applicable exemption under CEQA?
- **Tier 2:** Is the project consistent with a GHG reduction plan which must, at a minimum, comply with AB 32 GHG reduction goals; include an emissions inventory agreed upon by either ARB or the SCAQMD, have been analyzed under CEQA and have a certified Final CEQA document, and have monitoring and enforcement components? If the proposed

project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions.

- **Tier 3:** Does the project exceed any of the following GHG screening thresholds: Industrial (when SCAQMD is the Lead Agency): 10,000 tpy CO₂e; Residential: 3,500 tpy CO₂e; Commercial: 1,400 tpy CO₂e; Mixed-use: 3,000 tpy CO₂e?
- **Tier 4:** Does the project include design features and/or implement GHG mitigation measures sufficient to meet the following?
 - **Efficiency Target (2020 Targets)**
 - 4.8 MT CO₂e per SP for project level threshold (land use emissions only) and total residual emissions not to exceed 25,000 MMTCO₂e
 - 6.6 MT CO₂e per SP for plan level threshold (all sectors)
 - **Efficiency Target (2035 Targets)**
 - 3.0 MT CO₂e per SP for project level threshold
 - 4.1 MT CO₂e per SP for plan level threshold

If the lead agency or project proponent cannot achieve the performance standards on any of the compliance options in Tier 4, the project-related GHG emissions would be considered significant.

- **Tier 5:** Will the project implement on- and off-site GHG mitigation to include financially supporting net GHG-reducing projects sufficient to reduce GHG emission impacts for the life of the project (30 years) to less than the applicable GHG screening threshold level?

Significant Unavoidable Adverse Impact. Construction and operation of the proposed project would generate GHG emissions, with most energy consumption (and associated generation of GHG emissions) occurring during operation of the project (as opposed to its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.¹

GHG emissions generated by the proposed project would predominantly consist of CO₂. In comparison to criteria air pollutants such as O₃ and PM₁₀, CO₂ emissions persist in the atmosphere for a substantially longer period of time. While emissions of other GHGs, such as CH₄, are important with respect to GCC, emission levels of other GHGs are less dependent on the land use and circulation patterns associated with the proposed land use development project than are levels of CO₂.

Construction. During construction of the proposed project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which

¹ United Nations Environment Programme (UNEP), 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. The *Air Quality Analysis* (Appendix D) also accounts for the construction emissions from utility trenching, construction waste haul-trips, and other on- and off-site project infrastructure, including the extensions of Avenues 50 and 52 and prescribed intersection mitigation improvements.

Construction activities produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Architectural coatings used in construction of the proposed project may contain VOCs that are similar to reactive organic gases (ROGs) and are part of O₃ precursors. However, there are no significant emissions of GHGs from architectural coatings.

As described earlier in Section 4.3.7, Project Impacts, in Section 4.3, Air Quality, the Specific Plan would be developed in phases, grouped to be consistent with the analysis performed in the Traffic Impact Analysis, which is provided in Appendix L. The most recent version of the CalEEMod model (Version 2011.1.1) was used to calculate construction emissions using parameters described in the air quality section. Per the requirements of the SCAQMD's GHG significance threshold, rather than analyzing the GHG construction emissions impacts separately from the operational emissions, the construction emissions are amortized for a period of 30 years and incorporated with the operational GHG emissions.¹ The GHG emission estimates presented in Table 4.7.B show the emissions associated with the level of development envisioned by the proposed project at the completion of Phases 1 and 2, Phases 3 and 4, and the completed project, Phase 5.

Operation. Long-term project operations would generate GHG emissions from the proposed mix of residential and commercial land uses. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities (internal and external to the Specific Plan project site) and visitors/deliveries to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed uses. As described in Section 4.3.7, Project Impacts, the most recent version of the CalEEMod model (Version 2011.1.1) was used to calculate operational emissions using parameters described in the Air Quality section.

¹ <http://www.aqmd.gov/hb/2008/December/o81231a.htm>, accessed June 4, 2013.

Table 4.7.B: Construction and Long-Term Operational Greenhouse Gas Emissions

| Source | Pollutant Emissions (MT/year) | | | | | |
|--|-------------------------------|----------------------|-----------------------|-----------------|------------------|-------------------|
| | Bio-CO ₂ | NBio-CO ₂ | Total CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
| Phases 1 and 2 | | | | | | |
| Phase 1 and 2 Construction Emissions Amortized over 30 Years | 0 | 1,600 | 1,600 | 0.1 | 0 | 1,600 |
| Operational Emissions (Phases 1 and 2): | | | | | | |
| Area Sources | 0 | 190 | 190 | 0.07 | 0 | 190 |
| Energy Sources | 0 | 17,000 | 17,000 | 0.38 | 0.18 | 17,000 |
| Mobile Sources | 0 | 150,000 | 150,000 | 4.3 | 0 | 150,000 |
| Waste Sources | 490 | 0 | 490 | 29 | 0 | 1,100 |
| Water Usage | 0 | 2,700 | 2,700 | 6.5 | 0.18 | 2,900 |
| Total Emissions (Phases 1 and 2) | 490 | 170,000 | 170,000 | 40 | 0.36 | 170,000 |
| Phases 1 through 4 | | | | | | |
| Phase 3 and 4 Construction Emissions Amortized over 30 Years | 0 | 1,900 | 1,900 | 0.071 | 0 | 1,900 |
| Operational Emissions (Phases 1 through 4): | | | | | | |
| Area Sources | 0 | 250 | 250 | 0.12 | 0 | 250 |
| Energy Sources | 0 | 31,000 | 31,000 | 0.68 | 0.35 | 31,000 |
| Mobile Sources | 0 | 240,000 | 240,000 | 5.5 | 0 | 240,000 |
| Waste Sources | 1,300 | 0 | 1,300 | 75 | 0 | 2,800 |
| Water Usage | 0 | 4,600 | 4,600 | 11 | 0.32 | 5,000 |
| Total Emissions (Phases 1 through 4) | 1,300 | 280,000 | 280,000 | 92 | 0.65 | 280,000 |
| Phases 1 through 5 (All Phases) | | | | | | |
| Phase 5 Construction Emissions Amortized over 30 Years | 0 | 2,300 | 2,300 | 0.074 | 0 | 2,300 |
| Operational Emissions (Phases 1 through 4): | | | | | | |
| Area Sources | 0 | 1,500 | 1,500 | 0.21 | 0 | 1,500 |
| Energy Sources | 0 | 51,000 | 51,000 | 1.1 | 0.55 | 51,000 |
| Mobile Sources | 0 | 490,000 | 490,000 | 11 | 0 | 490,000 |
| Waste Sources | 1,800 | 0 | 1,800 | 110 | 0 | 4,100 |
| Water Usage | 0 | 8,700 | 8,700 | 18 | 0.52 | 9,300 |
| Total Project Emissions (Phases 1 through 5) | 1,800 | 550,000 | 560,000 | 140 | 1.1 | 560,000 |

Source: *Air Quality Analysis*, LSA Associates, Inc. (June 2013).

Note: The GHG emissions shown are for information purposes only. There are no adopted thresholds to which to compare these emissions. Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

Bio-CO₂ = biologically generated carbon dioxide

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

MT = metric tons

N₂O = nitrous oxide

NBio-CO₂ = non-biologically generated carbon dioxide

The biologically generated CO₂ represents emissions generated by biological processes, primarily decomposition of waste in a landfill. The nonbiologically generated CO₂ represents emissions generated by all other sources, primarily fossil fuel combustion, but also fugitive emissions from equipment leaks and other minor sources. At present, there is a federal ban on chlorofluorocarbons (CFCs); therefore, it is assumed the project would not generate emissions of CFCs. The CAA does not allow any refrigerant to be vented into the atmosphere during installation, service, or retirement of equipment. PFCs and SF₆ are typically used in industrial applications, none of which would be used on the project site; therefore, the project would not contribute measurable emissions of HFCs, PFCs, or SF₆.

As shown in Table 4.7.B, the project would produce 170,000 metric tons per year (MT/year) of CO₂e at the completion of Phases 1 and 2, which is 0.17 MMTCO₂e/year. The project would produce 280,000 MT/year of CO₂e at the completion of Phases 3 and 4, which is 0.28 MMTCO₂e/year. The total project (Phases 1 through 5) would produce 560,000 MT/year of CO₂e at the completion, which is 0.56 MMTCO₂e/year. As a comparison, the existing emissions from the entire SCAG region are estimated to be approximately 176.79 MMTCO₂e/year and approximately 496.95 MMTCO₂e/year for the entire State.

Table 4.7.B lists project-related GHG emissions pursuant to the OPR Technical Advisory *CEQA and Climate Change: Addressing Climate Change Through CEQA Review*, stating that the emissions from projects must be disclosed even in the absence of thresholds of significance.

In comparing the proposed project to the SCAQMD-tiered draft interim GHG significance criteria, it is not exempt as described in Tier 1, nor is there a GHG reduction plan in the Coachella General Plan or any other GHG reduction plan applicable to the proposed project, per Tier 2. The Tier 3 screening significance criteria level for mixed-use projects is 3,000 MT/year of CO₂e. The project exceeds this criteria for Phases 1 and 2, Phases 3 and 4, and the total project. Exceeding Tier 3 screening means the project is evaluated using Tier 4. Considering the Tier 4 Performance Targets, the project must be less than or equal to both the 2020 and 2035 Performance Targets in order to be considered less than significant. The 2020 target for plans is 6.6 MT/year per service population, and the 2035 target for plans is 4.1 MT/year per service population. The total service population of the proposed project, which is the total of the residents and employees, is planned to be approximately 35,958 residents and 3,355 workers. This translates to a 2020 target of 6.6 x 39,313, or 259,500 MT/year. Table 4.7.B shows the total project would emit 560,000 MT/year, exceeding the 2020 target. For the 2035 target, the result is 4.1 x 39,313, or 161,200 MT/year. Table 4.7.B shows the total project would emit 560,000 MT/year, exceeding the 2035 target also. Therefore, the proposed project would exceed the Tier 4 Performance Targets and the emissions of GHGs would be significant.

Per Tier 5, the proposed project would require implementation of all feasible on-site design features and mitigation measures to reduce this significant impact, including:

- a. AB 32 compliance measures described in Table 4.7.C;
- b. Project Design Features listed in Section 4.7.7;
- c. Sustainability Features listed in Section 4.7.9; and

Table 4.7.C: Project Compliance with Greenhouse Gas Emission Reduction Strategies

| Strategy | Project Compliance |
|--|---|
| Mandatory Code | |
| <p>California Green Building Code (CALGreen). The CALGreen Code prescribes a wide array of measures that would directly and indirectly result in reduction of GHG emissions from the Business-as-Usual Scenario (California Building Code). The mandatory measures that are applicable to the project include site selection, energy efficiency, water efficiency, materials conservation and resource efficiency, and environmental quality measures.</p> | <p>Compliant. The proposed project would be required to adhere to the mandatory measures as required by the CALGreen Code, as described in the Energy Efficiency Sustainability Feature.</p> |
| Energy Efficiency Measures | |
| <p>Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).</p> <p>Renewables Portfolio Standard. Achieve a 33 percent renewable energy mix statewide.</p> <p>Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.</p> | <p>Compliant. The proposed project would comply with the updated Title 24 standards, including the new 2010 California Building Code of Title 24, for building construction. In addition, the proposed project would comply with the Energy Efficiency Sustainability Feature, including energy efficient building design features (e.g., a minimum of 25% solar panels on project building roofs).</p> |
| Water Conservation and Efficiency Measures | |
| <p>Water Use Efficiency. Continue efficiency programs and use cleaner energy sources to move and treat water. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.</p> | <p>Compliant. The proposed project would be required to adhere to the mandatory measures as required by the CALGreen Code and Sustainability Features for water conservation.</p> |
| Solid Waste Reduction Measures | |
| <p>Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero Waste. Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials. Composting and commercial recycling could have substantial GHG reduction benefits. In the long term, zero-waste policies that would require manufacturers to design products to be fully recyclable may be necessary.</p> | <p>Compliant. The proposed project would comply with Materials Efficiency Sustainability Feature, including measures to increase solid waste diversion, composting, and recycling.</p> |
| Transportation and Motor Vehicle Measures | |
| <p>Vehicle Climate Change Standards. AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light-duty trucks. Regulations were adopted by the ARB in September 2004.</p> <p>Light-Duty Vehicle Efficiency Measures. Implement additional measures that could reduce light-duty GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency.</p> | <p>Compliant. The proposed project does not involve the manufacture of vehicles. However, vehicles that are purchased and used within the project site would comply with any vehicle and fuel standards that the ARB adopted at the time of manufacture.</p> |

Table 4.7.C: Project Compliance with Greenhouse Gas Emission Reduction Strategies

| Strategy | Project Compliance |
|--|---|
| <p>Adopt Heavy- and Medium-Duty Fuel and Engine Efficiency Measures. Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.</p> <p>Low Carbon Fuel Standard. ARB identified this measure as a Discrete Early Action Measure. This measure would reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020.</p> | |
| <p>Regional Transportation-Related Greenhouse Gas Targets. Develop regional GHG emissions reduction targets for passenger vehicles. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.</p> | <p>Compliant. The proposed project would implement Walkability/ Mobility and Land Use Sustainability Features, which provide for non-vehicular modes of transportation, prioritizes parking for electric, hybrid, and alternative fuel vehicles, limitations on delivery truck idling, and non-GHG emitting public and individual transportation alternatives.</p> |
| <p>Measures to Reduce High Global Warming Potential Gases. ARB has identified Discrete Early Action measures to reduce GHG emissions from the refrigerants used in car air conditioners, semiconductor manufacturing, and consumer products. ARB has also identified potential reduction opportunities for future commercial and industrial refrigeration, changing the refrigerants used in auto air-conditioning systems, and ensuring that existing car air-conditioning systems do not leak.</p> | <p>Compliant. New products used or serviced on the project site would comply with future ARB rules and regulations.</p> |

Source: *Air Quality Analysis*, LSA Associates, Inc. (June 2013).

AB = Assembly Bill

ARB = California Air Resources Board

GHG = greenhouse gas

- d. Mitigation Measures 4.7.1 through 4.7.8, which require incorporation of the sustainability features in specific development area design plans; prioritization of electric, hybrid and alternative fuel vehicles; energy-efficient street lighting; construction waste recycling; control of vehicle idling; and non-motorized transportation modes within the project.

Additionally, the traffic Mitigation Measures 4.16.1 and 4.16.2 include improvements to 32 off-site intersections near the project site to reduce traffic congestion, which would also reduce potential vehicle GHG emissions. When combined, these features and measures would reduce the potential amount of GHG emissions from project construction and operation. Quantification of the reduction would depend on a number of variables (e.g., the extent of the private use of alternative energy/fuel vehicles and non-motorized transportation uses within the Specific Plan development area and off-site infrastructure improvement areas). Nevertheless, a reasonable estimate of the overall GHG emissions reductions that would be achieved by all of the planned measures is 20 percent compared to business-as-usual.

This is based on the project exceeding Title 24 standards by 20 percent as described in Mitigation Measure 4.7.1, traffic measures described in Chapter 4.16, and the Walkability/Mobility Sustainability Feature of the Specific Plan design that minimizes vehicle use, as well as the many energy efficiency improvement measures described throughout this EIR that all contribute to the overall lowering of GHG emissions. The SCAQMD Tier 5 would be achieved if these measures reduced the project's GCC impact to less than the Tier 4 thresholds. Reducing the GHG emissions shown in Table 4.7.B by 20 percent from business-as-usual do not achieve this goal. Accordingly, as indicated below, there is a significant and unavoidable impact under this GHG threshold.

As indicated above in Section 4.7.6, Regulatory Setting, the City is preparing a CAP as part of the General Plan Update. The CAP would essentially include strategies and measures to reduce GHG emissions from development, infrastructure projects and mobile sources within the City. Specific development proposals (Tentative Tract Maps) submitted for the La Entrada Specific Plan project site would either be conditioned to be consistent with the City's CAP when approved, and/or the specifications of the mitigation measures herein, whichever is more stringent.

Therefore, in an abundance of caution, this analysis concludes that the proposed project's GHG emissions would be significant and unavoidable. The City would conduct subsequent CEQA review of any submitted Tentative Tract Maps to revisit the GHG impact issue.

Threshold 4.7.2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Significant Unavoidable Adverse Impact. As the GHG emissions reduction goals in AB 32 are scoped to manage total statewide GHG emissions of approximately 496.95 MMTCO₂e/year, the total GHG emissions of 0.34 MMTCO₂e/year from the proposed project are not likely to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under AB 32 or other State regulations. The Climate Action Team and the ARB have developed several reports to achieve the Governor's GHG targets that rely on voluntary actions of California businesses, local governments and community groups, and State incentive and regulatory programs. These include the Climate Action Team's 2006 "*Report to Governor Schwarzenegger and the Legislature*," ARB's 2007 "*Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California*," and ARB's "*Climate Change Proposed Scoping Plan: a Framework for Change*."

These reports identify strategies to reduce California's emissions to the levels proposed in EO S-3-05 and AB 32 that are applicable to the proposed project. The Proposed Scoping Plan is the most recent document, and the strategies included in the Scoping Plan that apply to the proposed project are described in Table 4.7.C, which also summarizes the extent to which the project would comply with the strategies to help California reach the emission reduction targets. The strategies listed in Table 4.7.C are either part of the Specific Plan or requirements under local or State regulations or ordinances. With implementation of these strategies/measures, the project's contribution to cumulative GHG emissions would be reduced.

The proposed project is consistent with the goals in the SCAG RTP/SCS of combining transportation and land use elements in order to achieve emissions reduction targets. The proposed project includes

a land use growth pattern that accommodates the region's future employment and housing needs and that protects sensitive habitat and resource areas. The proposed La Entrada Specific Plan would be consistent with the City's General Plan and zoning with anticipated mixed-use development on the project site.

As discussed above in Threshold 4.7.1, the specific development proposals would be required to be consistent with the City's CAP, when approved, and/or the specifications of the sustainability features and mitigation measures contained herein to reduce GHG emissions, whichever is more stringent.

While the proposed project includes Project Design Features and Sustainability Features, it would still generate significant amounts of GHG emissions. Mitigation Measures 4.7.1 through 4.7.8 are prescribed to further reduce the proposed project's GHG emissions; however, estimated GHG emissions with mitigation reductions would remain above the Tier 5 targets as discussed above in Threshold 4.7.1. As a result of the significant amount of GHG emissions, the proposed project would conflict with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. Therefore, the proposed project would also be considered to exceed Threshold 4.7.2 related to conflicting with applicable plans, policies, and regulations, resulting in a significant unavoidable impact.

4.7.11 Mitigation Measures

As described in the Sustainability Features in Section 4.7.9, the proposed La Entrada Specific Plan encourages or promotes energy efficiency design techniques. These features are included below as required mitigation measures to be incorporated into the design and construction of the project (including specific building projects). In addition, Mitigation Measure 4.3.7 described in Section 4.3, Air Quality, would also reduce the project's GHG emissions.

Mitigation Measure 4.7.1 Energy Efficiency and Green Building Standards. The proposed project shall exceed the most current Title 24 of the California Code of Regulations (CCR) established by the California Energy Commission (CEC) regarding energy conservation and green buildings standards by 20 percent. Building plans prepared for each Tentative Tract Map shall include the following components:

- Design to United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED), GreenPoint Rated standard, or better for all new buildings constructed within the La Entrada Specific Plan
- Energy-efficient light-emitting diode (LED) lighting and solar photovoltaic lighting fixtures in all common areas of the site
- Energy-efficient appliances (ENERGY STAR or equivalent), and high efficiency heating, ventilation, and air conditioning (HVAC) systems in all on-site buildings
- Green building techniques that increase building energy efficiency above the minimum requirements of Title 24

- Installation of photovoltaic panels on a minimum of 25 percent of the buildings on site
- Utilization of high reflectance materials for paving and roofing materials on residential, commercial, and school buildings

Mitigation Measure 4.7.2

Materials Efficiency. Project plans for each Tentative Tract Map will include the following materials efficiency components:

- Materials used for buildings, landscape, and infrastructure will be chosen with a preference for the following characteristics: rapidly renewable; increased recycle content (50 percent or greater); locally sourced materials (within the South Coast Air Basin); utilization of sustainable harvesting practices; and materials with low or no volatile organic compounds (VOCs) off-gassing.

Mitigation Measure 4.7.3

Water Conservation and Efficiency Features. Project plans for each Tentative Tract Map will include the following water efficiency components:

- Drought-tolerant landscaping, nonpotable reclaimed, well, or canal water for irrigation purposes
- High-efficiency plumbing fixtures and appliances that meet or exceed the most current CALGreen Code in all buildings on site
- Efficient (i.e., “Smart”) irrigation controls to reduce water demand on landscaped areas throughout the project
- Restriction of irrigated turf in parks to those uses dependent upon turf areas, such as playing fields and picnic areas
- An integrated storm water collection and conveyance system
- Dual plumbing within recreation areas, landscaped medians, common landscaped areas, mixed use/commercial areas, and parks to allow the use of reclaimed water when available

Mitigation Measure 4.7.4

Landscape Design Features. Project plans for each Tentative Tract Map will include the following landscape design components:

- Community-based food production within the project by planning for community gardens
- Native plant species in landscaped areas on the project site
- Landscape plant palette that focuses on shading within developed portions of the site and in areas of pedestrian activity
- Tree-lined streets to reduce heat island effects

- Non-turf throughout the development areas where alternative ground cover can be used, such as artificial turf and/or xeriscaping
- Landscape to provide shading of structures within 5 years of building completion

Mitigation Measure 4.7.5 **Vehicle Priority.** Prior to issuance of any Site Development permits, the Director of the City of Coachella (City) Public Works Department, or designee, shall include prioritized parking for electric vehicles, hybrid vehicles, and alternative fuel vehicles.

Mitigation Measure 4.7.6 **Energy Efficient Street Lights and Traffic Signals.** The City shall identify energy efficient street lights which are currently available and which, when installed, would provide a 10 percent reduction beyond the 2010 baseline energy use for this infrastructure, and shall require the use of this technology in all new development. All new traffic lights installed within the project site shall use light-emitting diode (LED) technology.

Mitigation Measure 4.7.7 **Construction Waste Management Plan.** Prior to issuance of a building permit, the applicant shall submit a Construction Waste Management Plan to the City for review and approval. The plan shall include procedures to recycle and/or salvage at least 75 percent of nonhazardous construction and demolition debris and shall identify materials to be diverted from disposal and whether the materials would be stored on-site or commingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculation can be done by weight or volume but must be documented.

Mitigation Measure 4.7.8 **Vehicle Idling Limits.** All commercial and retail development shall be required to post signs and limit idling time for commercial vehicles, including delivery trucks, to no more than 5 minutes. This condition shall be included on future site development plans for review and approval by the City of Coachella Director of Development Services.

4.7.12 Cumulative Impacts

As defined in Section 15130 of the *CEQA Guidelines*, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for land use. As described in Section 4.3, Air Quality, current land use designations for the project site are consistent with land use designations established by the McNaughton Specific Plan, which was previously approved for the project site and is included in the City's current General Plan and Zoning designations for the project site. The proposed project's land uses would be similar to those established by the McNaughton Specific Plan, although placed in different areas on the project site. Therefore, the existing General Plan

designations are considered to be consistent with the proposed land uses; thus, the existing Air Quality Management Plan (AQMP), which includes emissions for past, current, and probable future projects, also includes emissions for the proposed land uses. As described in Section 4.16, Traffic and Circulation, the cumulative traffic analysis included cumulative project lists from the City, as well as from the Cities of Coachella, Indio, and the County of Riverside. As the mobile source GHG emissions described in this section are based on those cumulative traffic data, and the mobile source emissions are well over 50 percent of the total, this GCC analysis is also cumulative.

Unlike the cumulative analysis for many topics that address the combined impacts of a proposed project in addition to related projects in a project study area, GCC is affected by a larger range of development activity. Although the State requires Metropolitan Planning Organizations and other planning agencies to consider how regionwide planning decisions can impact GCC, there is currently no established nonspeculative methodology for assessing the potential contribution to cumulative GCC by proposed independent private party development projects.

The California Attorney General's office has taken an active role in addressing climate change via the *CEQA Guidelines*, including, but not limited to: submitting comment letters on draft CEQA documents; filing CEQA lawsuits; and entering into related settlement agreements. Additionally, the Attorney General's office has created and routinely updates a Fact Sheet listing project design features to reduce GHG emissions. The Attorney General's office created this Fact Sheet primarily for the benefit of local agencies processing CEQA documents, acknowledging that "...local agencies will help to move the State away from "business-as-usual" and toward a low-carbon future."¹ The Fact Sheet explains that the listed "...measures can be included as design features of a project..." but emphasizes that they "...should not be considered in isolation, but as part of a larger set of measures that, working together, will reduce GHG emissions and the effects of global warming."

Although the proposed project is expected to emit GHGs, the emission of GHGs by any single project into the atmosphere is not itself necessarily an adverse environmental effect. This is because the emissions of a single project are unlikely to cause climate change on a global scale. Rather, it is the increased accumulation of GHGs from more than one project and many sources in the atmosphere that may result in GCC. The resultant consequences of that climate change could cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in GCC, it is speculative to identify the specific impact, if any, to GCC from one project's very small contribution to global GHG emissions. As such, a project's GHG emissions and the resulting significance of potential impacts are more properly assessed on a cumulative basis. The project-specific analysis conducted above is essentially already a cumulative analysis because it takes into consideration statewide GHG reduction targets and analyzes the proposed project's consistency with those targets.

The State has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are forecasted to continue to increase in the future. In order to achieve this goal, the ARB is in the process of establishing and implementing regulations to reduce

¹ California Attorney General's Office Fact Sheet. The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level. December 2008.

statewide GHG emissions. However, currently there are no applicable significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the cumulative level. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions.

The proposed project emphasizes energy efficiency and water conservation as described under Threshold 4.7.2 above; however, the proposed project would conflict with Threshold 4.7.2. As a result, the proposed project's climate change impacts with regard to GHG emissions would be considered cumulatively significant because they would contribute to GHG emissions that exceed the AB 32 statewide goals.

4.7.13 Significant Unavoidable Adverse Impacts

The proposed project would result in significant unavoidable adverse impacts related to the generation of GHG emissions and GCC.

4.7.14 Impacts to the Proposed Project from Global Climate Change

Local temperatures could increase in time as a result of GCC with or without development as envisioned by the project. This increase in temperature could lead to other climate effects including, but not limited to, increased flooding due to increased precipitation and runoff. At present, the extent of climate change impacts is uncertain, and more extensive monitoring of runoff is necessary for greater understanding of changes in hydrologic patterns. Studies indicate that increased temperatures could result in a greater portion of peak streamflows occurring earlier in the spring, with decreases in late spring and early summer. These changes could have implications for water supply, flood management, and ecosystem health. The following is an analysis of potential impacts of climate change to the project:

- The project site is in an elevated location, and therefore would not be threatened from rising waters.
- The region in which the project site is located is subject to seasonal wildfires. The project building will have all required fire suppression systems, thereby minimizing the risk of fire damage.

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