

4.7 GREENHOUSE GAS EMISSIONS

This section provides a discussion of global climate change (GCC), existing regulations pertaining to GCC, and an analysis of greenhouse gas (GHG) emissions associated with the proposed Ganahl Lumber Project (proposed project). This section summarizes information provided in the *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a) that was prepared for the project. The *Air Quality & Greenhouse Gas Assessment* is included in Appendix B of this Draft Environmental Impact Report (EIR).

4.7.1 Scoping Process

The City of San Juan Capistrano (City) received 11 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this EIR. No comment letters included comments related to GHG emissions.

4.7.2 Methodology

The *Air Quality & Greenhouse Gas Assessment* (ECORP Consulting, Inc., 2019) was prepared for the proposed project. Impacts related to GHG emissions and GCC were assessed in accordance with methodologies recommended by California Air Resources Board (CARB) and the Southern California Air Quality Management District (SCAQMD). GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e). The latest version of the California Emissions Estimator Model (CalEEMod) (v2016.3.2), which was released by the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts on October 17, 2017, was used to determine construction and operational air quality emissions of the proposed project. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults for Orange County. However, the length of construction is based on estimates provided by the project Applicant; construction of the proposed project is anticipated to start in 2020 and is estimated to last 24 months. Operational air pollutant emissions were based on the project site plans and the estimated traffic trip generation rates from the *Traffic Impact Analysis for the Ganahl Lumber Development Project, San Juan Capistrano, Orange County, California* (TIA) (LSA, 2019) (Appendix J). Additionally, estimated emissions account for the use of 12 diesel-powered material handling vehicles (forklifts) on site, daily. Projected emissions associated with the proposed project were compared to the existing baseline, which includes a vehicle storage lot containing 752 spaces in the central portion of the project site.

4.7.3 Existing Environmental Setting

4.7.3.1 Global Climate Change

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These gases, which trap heat in the atmosphere, are often referred to as GHGs. These particular gases are important due to their residence time (the duration they stay) in the

atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere but prevent radioactive heat from escaping, thus warming the Earth's atmosphere.

GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural GHG effect, the Earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than currently conditions. The cumulative accumulation of GHGs in the Earth's atmosphere is considered to be the cause for the observed increase in the Earth's temperature. Higher global temperatures have many secondary effects, including:

- Increased air pollution
- Health effects such as risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat
- Changes in precipitation and snow melt
- Rising sea levels
- Reduction in agricultural production
- Increased abundance and range of invasive species and pests
- Increased risk of wildfire
- Alteration of natural ecosystems

These effects are detailed further in the *Air Quality & Greenhouse Gas Assessment*.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants, which are pollutants of regional and local concern. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists amongst the public about whether or not GCC is occurring naturally or as a result of human activity. Climate data indicate that natural shifts in climate have occurred over the course of millions of years before the influence of human, as in the case of an ice age. However, scientific evidence indicates that the climate shift taking place since the industrial revolution (1850) is occurring at a much quicker rate than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the Earth's atmosphere, including CO₂, CH₄, N₂O, and fluorinated gases. The vast majority of scientists agree that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

4.7.3.2 Primary Greenhouse Gases

The following discussion summarizes the characteristics of the primary GHGs:

- **Carbon Dioxide (CO₂):** CO₂ is an odorless and colorless GHG. CO₂ is emitted from natural and man-made sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood. CO₂ is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO₂ concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of CO₂ in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.

- **Methane (CH₄):** CH₄ is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO₂ and its lifetime in the atmosphere is brief (10 to 12 years) compared to other GHGs. Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.
- **Nitrous Oxide (N₂O):** N₂O, also known as laughing gas, is a colorless GHG. Concentrations of N₂O began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil-fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant (e.g., in whipped cream bottles). It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction.

4.7.3.3 Existing Project Site Greenhouse Gas Emissions

The project site is not developed and is used as a vehicle storage lot. For the purposes of the *Air Quality & Greenhouse Gas Assessment*, projected emissions associated with proposed operations are compared to the existing baseline, which includes a 752-space vehicle storage lot located in the central and southern portions of the project site.

4.7.4 Regulatory Setting

4.7.4.1 Federal Regulations

Prior to the last decade, there had been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are federal actions regarding GHGs and fuel efficiency over the last decade.

GHG Endangerment. In *Massachusetts vs. Environmental Protection Agency*, 549 U.S. 497, which was decided on April 2, 2007, the United States Supreme Court found that four GHGs, including CO₂, are air pollutants subject to regulation under Section 202(a)(1) of the federal Clean Air Act (CAA). The Court held that the EPA Administrator must determine whether emissions of GHGs from new

motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed GHGs (i.e., CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section titled “Clean Vehicles” below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator’s findings.

4.7.4.2 State Regulations

Assembly Bill 32. In September 2006, the California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “GHGs” as defined under AB 32 include CO₂, CH₄, N₂O, HFCs, PFCs, and SF. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride (NF₃), has also been added to the list of GHGs. CARB is the State agency charged with monitoring and regulating sources of GHGs. CARB approved the 1990 GHG emissions level of 427 MMT of CO₂e on December 6, 2007. Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMT of CO₂e. Emissions in 2020 in a “business as usual” (BAU) scenario were estimated to be 596 MMT of CO₂e, which do not account for reductions from AB 32 regulations. At that level, a 28.4 percent reduction was required to achieve the 427 MMT of CO₂e 1990 inventory. In October 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 MMT of CO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.

CARB Scoping Plan. The CARB 2008 Scoping Plan contains measures designed to reduce the State’s emissions to 1990 levels by the year 2020 to comply with AB 32. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector having a different emission reduction target. Most of the measures target the transportation and electricity sectors.

In November 2017, CARB released the final 2017 Scoping Plan Update, which identifies the State’s post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order (EO) B-30-15 and codified by SB 32. Key programs that the Scoping Plan Update builds upon include the Cap-and-Trade Regulation, the Low

Carbon Fuel Standard, and much cleaner cars, trucks, and freight movement utilizing cleaner, renewable energy and strategies to reduce CH₄ emissions from agricultural and other wastes. The 2017 Scoping Plan establishes a new emissions limit of 260 MMT of CO₂e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

Senate Bill 32 and Assembly Bill 197. On September 8, 2016, former Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the State to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in EO B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving EO S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. AB 197 created a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but to the Legislature as well.

Senate Bill 375 – Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, SB 375 was signed by former Governor Brown on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires Metropolitan Planning Organizations (MPOs) to include sustainable community strategies in their Regional Transportation Plans (RTPs) for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for implementation of the strategies.

Executive Order S-3-05. Former Governor Arnold Schwarzenegger announced on June 1, 2005, through EO S-3-05, the following reduction targets for GHG emissions:

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

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an Executive Order, the goals are not legally enforceable for local governments or the private sector.

Executive Order B-30-15. On April 29, 2015, former Governor Brown issued EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 aligns California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris in late 2015. In addition, EO B-30-15 sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs the CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMT of CO₂e. EO B-30-15 also requires the State’s climate adaptation plan to be updated every 3 years, and for the State to continue its climate change research program, among other provisions. As with EO S-3-05, EO B-30-15 is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post-2020 targets and requirements a mandate is in process in the State Legislature.

Executive Order B-55-18 and Senate Bill 100. SB 100 and EO B-55-18 were signed by former Governor Brown on September 10, 2018. Under the existing renewables portfolio standard, 25 percent of retail sales are required to be from renewable sources by December 31, 2016, 33 percent by December 31, 2020, 40 percent by December 31, 2024, 45 percent by December 31, 2027, and 50 percent by December 31, 2030. SB 100 raises California's renewables portfolio standard requirement to 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. In addition to targets under AB 32 and SB 32, EO B-55-18 establishes a carbon neutrality goal for the state of California by 2045, and sets a goal to maintain net negative emissions thereafter. EO B-55-18 directs the California Natural Resources Agency, the California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture, and the CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

4.7.4.3 Regional Regulations

South Coast Air Quality Management District. The SCAQMD is the air pollution control agency for Orange County, as well as the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD addresses the impacts to climate change from projects subject to SCAQMD permits as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions. All projects within the Basin are subject to SCAQMD rules and regulations in effect at the time of construction.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Basin. The Working Group developed several different options that are contained in the SCAQMD draft guidance document titled *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* (December 5, 2008) that could be applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening-level bright-line threshold of 3,000 metric tons (MT) of CO₂e annually, and an efficiency-based threshold of 4.8 MT of CO₂e per service population per year in 2020 and 3.0 MT of CO₂e per service population per year in 2035. For the proposed project, the service population is comprised of project employees and patrons to the project site. The SCAQMD has not presented a finalized version of these thresholds to the governing board.

The SCAQMD identifies the emissions level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the utilization of a service population represents the rates of emissions needed to achieve a fair share of the State's mandated emissions reductions. Overall, SCAQMD identifies a GHG efficiency

level that, when applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets as required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State will be able to accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32's emissions target and future post-2020 targets.

Regional Transportation Plan/Sustainable Communities Strategy. The Southern California Association of Governments (SCAG) is a regional council consisting of the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In total, the SCAG region encompasses 191 cities and over 38,000 square miles within Southern California. SCAG is the Metropolitan Planning Organization (MPO) serving the region under federal law, and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2008 Regional Comprehensive Plan (RCP).

On April 7, 2016, SCAG adopted the 2016–2040 RTP/SCS. The 2016–2040 RTP/SCS is a long-range planning document that provides a common foundation for regional and local planning, policymaking, and infrastructure goals in the SCAG region. The overall vision for the 2016–2040 RTP/SCS is to allow for compact communities that are connected by numerous public transit options, are more walkable, and are safe for bicyclists. By promoting more compact communities and improving the regional transit system, SCAG's 2016–2040 RTP/SCS aims to reduce vehicular miles traveled and associated air quality and greenhouse gas emissions, promote active lifestyles, and fuel economic growth.

The 2016–2040 RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for target years 2020 and 2035. Additionally, the RTP/SCS establishes an overall GHG target for the region consistent with both the statewide GHG-reduction targets for 2020 and post-2020 Statewide GHG reduction goals. Overall, the 2016–2040 RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently.

Regional Comprehensive Plan. In 2008, SCAG adopted the Regional Comprehensive Plan (RCP) for the purpose of providing a comprehensive strategic plan for defining and solving housing, traffic, water, air quality, and other regional challenges. The 2008 RCP has two primary objectives in implementing this strategic plan: (1) integrating transportation, land use, and air quality planning approaches, and (2) outlining key roles for public and private sector stakeholders to implement reasonable policies regarding transportation, land use, and air quality approaches. While the 2008 RCP outlines several policies to inform local decision-makers within the SCAG region with respect to policy and planning decisions, these policies are considered recommendations and are not mandated by law.

4.7.4.4 Local Regulations

The City of San Juan Capistrano does not have any plans, policies, regulations, significance thresholds, or laws addressing climate change at this time. However, the City’s General Plan Public Services and Utilities Element (1999) includes policies addressing energy conservation.

In April 2018, the City Council passed Resolution No. 18-04-17-04, which supports findings that human activities are a key contributor to climate change, as well as acknowledges that if left unaddressed, the consequences of climate change will adversely impact the public, especially the most vulnerable populations.

4.7.5 Thresholds of Significance

The thresholds for GHG emissions impacts used in this analysis are consistent with Appendix G of the California Environmental Quality Act Guidelines (*State CEQA Guidelines*) and the City’s *Local Guidelines for Implementing CEQA* (2019). The proposed project may be deemed to have a significant impact with respect to GHG emissions if it would:

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

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

4.7.6 Project Impacts

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

Less than Significant Impact.

Construction. Construction activities associated with the proposed project would result in emissions of CO₂e from construction activities, including construction worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., dozers, loaders, and excavators). As stated previously, project construction-generated GHG emissions were primarily calculated using CalEEMod model defaults for Orange County, and construction of the proposed project was assumed to start in 2020 and is estimated to last 24 months. Table 4.7.A shows construction-generated GHG emissions that would result from construction of the project.

Table 4.7.A: Construction Greenhouse Gas Emissions

| Emissions Source | CO ₂ e (MT/yr) |
|----------------------|---------------------------|
| Construction in 2020 | 1,027 |
| Construction in 2021 | 2,231 |
| Construction in 2022 | 610 |
| Total | 3,868 |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

As shown in Table 4.7.A, construction of the proposed project would generate approximately 3,868 MT over the course of construction. The amortized construction emissions have been assessed as part of the annual average operation emissions, below. Because construction would be temporary (approximately 24 months), would cease upon project completion, and would not result in a permanent increase in emissions, impacts would be less than significant and no mitigation is required.

Operation. Operation of the project would result in GHG emissions predominantly associated with motor vehicle use by employees and patrons to the project site. Projected emissions associated with the proposed project were compared to the existing baseline, which includes a vehicle storage lot containing 752 spaces in the central portion of the project site.

Table 4.7.B shows the long-term operational GHG emissions attributable to the project following site buildout, which are compared to SCAQMD’s interim screening-level bright-line threshold of 3,000 MT of CO₂e annually.

Table 4.7.B: Operational Greenhouse Gas Emissions

| Emissions Source | CO ₂ e (MT/yr) |
|---|---------------------------|
| Project Buildout | |
| Total Construction Emissions (amortized over the lifespan of the project) | 129 |
| Area Source Emissions | 0 |
| Energy Source Emissions | 526 |
| Mobile Source Emissions | 2,741 |
| Solid Waste Hauling & Decomposition Emissions | 714 |
| Water & Wastewater Conveyance Emissions | 101 |
| Material Handling Equipment | 211 |
| Total Emissions | 4,422 |
| Existing Baseline Conditions | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 84 |
| Mobile Source Emissions | 551 |
| Solid Waste Hauling & Decomposition Emissions | 0 |
| Water & Wastewater Conveyance Emissions | 0 |
| Total Emissions | 635 |
| Net Maximum Daily Emissions (Project Minus Existing) | |
| Total Construction Emissions (amortized over the lifespan of the project) | +129 |
| Area Source Emissions | 0 |
| Energy Source Emissions | +442 |
| Mobile Source Emissions | +2,190 |
| Solid Waste Hauling & Decomposition Emissions | +714 |
| Water & Wastewater Conveyance Emissions | +101 |
| Material Handling Equipment | +211 |
| Total Emissions | +3,787 |
| SCAQMD Screening Threshold | 3,000 |
| Threshold Exceeded? | YES |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

As shown in Table 4.7.B, project operations would generate 3,787 MT of CO₂e per year, which exceeds SCAQMD’s interim screening-level bright-line threshold of 3,000 MT of CO₂e per year. As such, the project has been compared with the efficiency-based threshold of 4.8 MT of CO₂e per project site service population per year by the year 2020, and 3.0 MT of CO₂e per project site service population per year in 2035.

As stated previously, the project’s service population is comprised of project employees and patrons to the project site. The SCAQMD identifies the emissions level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the utilization of a service population represents the rates of emissions needed to achieve a fair share of the State’s mandated emissions reductions. Overall, SCAQMD identifies a GHG efficiency level that, when applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets as required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State will be able to accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32’s emissions target and future post-2020 targets.

According to the *Air Quality & Greenhouse Gas Assessment*, patrons would comprise the majority of visitors to the project site, followed by a smaller number of employees working at the site. Patrons visiting the project site would not reside on site; instead, they would largely reside in the surrounding communities and represent a population that is served by the proposed uses. Additionally, patrons traveling to the project site would represent a dominate source of project-generated GHG emissions. For these reasons, an efficiency-based threshold is utilized in the analysis. The *Air Quality & Greenhouse Gas Assessment* estimates that 1,491 patrons would visit the project site per day. Combined with the 145 employees expected to be employed at the project site daily, the project’s service population totals 1,636 people.¹

Table 4.7.C shows the project’s estimated operational GHG emissions per service population.

Table 4.7.C: Operational Greenhouse Gas Emissions Per Service Population

| Per Capita Emissions | Project Emissions | Service Population Increase | CO ₂ e Per Service Population (MT/yr) | SCAQMD Threshold | Exceeds Threshold? |
|----------------------------|-------------------|-----------------------------|--|------------------|--------------------|
| Year 2020 Project Buildout | 4,422 | 1,636 | 2.7 | 4.8 | NO |
| Year 2035 Project Buildout | 4,422 | 1,636 | 2.7 | 3.0 | NO |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

SCAQMD = South Coast Air Quality Management District

As shown in Table 4.7.C, the project would not exceed SCAQMD efficiency-based thresholds in either 2020 or 2035 buildout scenarios. SCAQMD thresholds were developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions. Since

¹ For more information regarding the methodology used to calculate project’s service population, refer to the *Air Quality & Greenhouse Gas Assessment*, included as Appendix B to this Draft EIR.

the project is in compliance with this threshold, the project's environmental impact related to GHG emissions would not be cumulatively considerable under CEQA. Therefore, impacts related to operational GHG emissions would be less than significant, and no mitigation would be required.

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

Less than Significant Impact. Although the City of San Juan Capistrano does not currently have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, the City is a member city of SCAG. As discussed previously, SCAG's 2016–2040 RTP/SCS is a long-range planning document that provides a common foundation for regional and local planning, policymaking, and infrastructure goals in the SCAG region. The 2016–2040 RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for target years 2020 and 2035 and establishes an overall GHG target for the region consistent with both the statewide GHG-reduction targets for 2020 and post-2020 statewide GHG reduction goals. Table 4.7.D shows the proposed project's consistency with the 2016–2040 RTP/SCS goals as analyzed in the *Air Quality & Greenhouse Gas Assessment*.

As shown in Table 4.7.D, the proposed project would not conflict with the stated goals of the 2016–2040 RTP/SCS. As such, the proposed project would not interfere with SCAG's ability to achieve the region's 2020 and post-2020 mobile source GHG reduction targets outlined in the 2016–2040 RTP/SCS, and it can be assumed that regional mobile emissions will decrease consistent with the goals of the 2016–2040 RTP/SCS. Further, the proposed project is not considered regionally significant per *State CEQA Guidelines* Section 15206. Thus, the project would not conflict with the 2016–2040 RTP/SCS targets since those targets were established and are applicable on a regional level. Therefore, impacts related to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions would be less than significant, and no mitigation is required.

4.7.7 Level of Significance Prior to Mitigation

There would be no potentially significant impacts related to GHG emissions.

4.7.8 Regulatory Compliance Measures and Mitigation Measures

4.7.8.1 Regulatory Compliance Measures (RCMs)

No regulatory compliance measures are required for the proposed project.

4.7.8.2 Mitigation Measures (MMs)

No mitigation is required for the proposed project.

4.7.9 Level of Significance after Mitigation

The proposed project would result in less than significant impacts with respect to GHG emissions and there would be no significant unavoidable adverse impacts of the proposed project.

Table 4.7.D: Consistency with SCAG’s RTP/SCS Goals

| SCAG Goals | Compliance with Goal |
|---|--|
| <p>Goal 1: Align the plan investments and policies with improving regional economic development and competitiveness.</p> | <p>Not Applicable. This is not a project-specific policy and is therefore not applicable.</p> |
| <p>Goal 2: Maximize mobility and accessibility for all people and goods in the region.</p> | <p>Consistent. Improvements to the transportation network in San Juan Capistrano are developed and maintained to meet the needs of local and regional transportation and to ensure efficient mobility. A number of regional and local plans and programs are used to guide development and maintenance of transportation networks, including but not limited to:</p> <ul style="list-style-type: none"> • 2017 Orange County Congestion Management Program • Caltrans Traffic Impact Studies Guidelines • Caltrans Highway Capacity Manual • SCAG RTP/SCS <p>Therefore, the proposed project would be consistent with Goal 2.</p> |
| <p>Goal 3: Ensure travel safety and reliability for all people and goods in the region.</p> | <p>Consistent. All modes of transit in San Juan Capistrano are required to follow safety standards set by corresponding regulatory documents. Pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of San Juan Capistrano, County of Orange) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists must follow safety standards established for the local and regional plans. Therefore, the proposed project would be consistent with Goal 3.</p> |
| <p>Goal 4: Preserve and ensure a sustainable regional transportation system.</p> | <p>Consistent. All new roadway developments and improvements to the existing transportation network must be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how the developments would impact existing traffic capacities and to determine the needs for improving future traffic capacities. Therefore, the proposed project would be consistent with Goal 4.</p> |
| <p>Goal 5: Maximize the productivity of our transportation system.</p> | <p>Consistent. The local and regional transportation system would be improved and maintained to encourage efficiency and productivity. The City’s Public Works and Utility Department oversees the improvement and maintenance of all aspects of the public right-of-way on an as needed basis. The City also strives to maximize productivity of the region’s public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of San Juan Capistrano. Therefore, the proposed project would be consistent with Goal 5.</p> |
| <p>Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).</p> | <p>Consistent. The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. For example, development projects are required to comply with the provisions of the California Building and Energy Efficiency Standards and the Green Building Standards Code (CALGreen Code). The City also strives to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region’s public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of San Juan Capistrano. Therefore, the proposed project would be consistent with Goal 6.</p> |
| <p>Goal 7: Actively encourage and create incentives for energy efficiency, where possible.</p> | <p>Not Applicable. This is not a project-specific policy and is therefore not applicable.</p> |

Table 4.7.D: Consistency with SCAG’s RTP/SCS Goals

| SCAG Goals | Compliance with Goal |
|--|---|
| <p>Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.</p> | <p>Consistent. See response to RTP/SCS Goal 6. The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. Therefore, the proposed project would be consistent with Goal 8.</p> |
| <p>Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.</p> | <p>Consistent. The City of San Juan Capistrano monitors existing and newly constructed roadways and transit routes to determine the adequacy and safety of these systems. Other local and regional agencies (e.g., Orange County Transportation Authority, Caltrans, and SCAG) work with the City to manage these systems. Security situations involving roadways and evacuations would be addressed in the County of Orange’s emergency management protocols (e.g., the Orange County Emergency Management Division’s Emergency Operations Center) developed in accordance with the state and federal mandated emergency management regulations. Therefore, the proposed project would be consistent with Goal 9.</p> |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

Caltrans = California Department of Transportation

RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy

SCAG = Southern California Association of Governments

4.7.10 Cumulative Impacts

As defined in Section 15130 of the *State 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 GHG emissions. GHG emissions are global pollutants, and therefore, result in cumulative impacts by nature. Consequently, it is speculative to determine how an individual project’s GHG emissions would impact California. As such, impacts identified under Section 4.7.6, Project Impacts, are not project-specific impacts to GCC, but are the proposed project’s contribution to this cumulative impact. The impact of project-related GHG emissions would not result in a reasonably foreseeable cumulatively considerable contribution to GCC. Additionally, the proposed project, in conjunction with other cumulative projects, would be subject to all applicable regulatory requirements which would further reduce GHG emissions. Further, the proposed project would not conflict with SCAG’s 2016–2040 RTP/SCS. Therefore, the project’s cumulative contribution of GHG emissions would be less than significant and the project’s cumulative GHG impacts would also be less than cumulatively considerable.

4.7.11 Project Alternatives

4.7.11.1 Alternative 1

Alternative 1 would allow for the future construction of a 161,385-square-foot (sf) Ganahl Lumber hardware store and lumber yard and a 399-space vehicle storage facility, but no drive-through restaurant uses would be developed. Alternative 1 represents a reduction in 6,000 sf of drive-through restaurant use as compared to the proposed project. Under Alternative 1, Area A would provide 150 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing, and grading, would not significantly change with the implementation of Alternative 1. Components specific to Area A, such as the location of walkways, retaining walls fences, and gates, would also not change under Alternative 1. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 1. Although Alternative 1 would not involve the development of structures on Area A as the proposed project would, the entirety of Area A would still be cleared, excavated, graded, and paved to accommodate surface parking.

For the reasons stated above, it can be assumed that construction-related GHG emissions generated under Alternative 1 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.7.6, Project Impacts, GHG emissions generated during construction of the proposed project would be temporary and would cease upon project completion. Similarly, GHG emissions generated during construction of Alternative 1 would be temporary, would cease upon project completion, and would not result in a permanent increase in emissions, and therefore, impacts would be less than significant.

Implementation of Alternative 1 would result in long-term operational GHG emissions. Table 4.7.E compares the long-term operational GHG emissions of Alternative 1 and the proposed project.

As shown in Table 4.7.E, Alternative 1 would result in 1,460 MT per year fewer CO₂e emissions as compared to the proposed project. Additionally, GHG emissions generated under Alternative 1 would fall under the SCAQMD interim screening-level bright-line threshold of 3,000 MT of CO₂e per year. As such, impacts under Alternative 1 would be slightly less, but similar to the proposed project and less than significant.

Similar to the proposed project, Alternative 1 would not conflict with the goals of the 2016–2040 RTP/SCS. Additionally, Alternative 1 would not be considered regionally significant per *State CEQA Guidelines* Section 15206. Thus, the project would not conflict with the 2016–2040 RTP/SCS targets because those targets were established and are applicable on a regional level.

Alternative 1 would have less than significant impacts with respect to GHG emissions. Overall, impacts to GHG emissions under Alternative 1 are reduced, but similar to impacts associated with the proposed project. Because impacts related to GHG emissions for Alternative 1 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.

Table 4.7.E: Alternative 1 Operational Greenhouse Gas Emissions

| Emissions Source | CO ₂ e (MT/yr) |
|---|---------------------------|
| Alternative 1 (No Restaurant Use) | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 393 |
| Mobile Source Emissions | 1,458 |
| Solid Waste Hauling & Decomposition Emissions | 679 |
| Water & Wastewater Conveyance Emissions | 92 |
| Material Handling Equipment | 211 |
| Total Emissions | 2,833 |
| Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 526 |
| Mobile Source Emissions | 2,741 |
| Solid Waste Hauling & Decomposition Emissions | 714 |
| Water & Wastewater Conveyance Emissions | 101 |
| Material Handling Equipment | 211 |
| Total Emissions | 4,293 |
| Alternative 1 Compared to Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | -133 |
| Mobile Source Emissions | -1,283 |
| Solid Waste Hauling & Decomposition Emissions | -35 |
| Water & Wastewater Conveyance Emissions | -9 |
| Material Handling Equipment | 0 |
| Total Difference in Emissions | -1,460 |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

Note: Construction emissions were not included in the alternatives analysis. Consequently, the existing conditions on the project site were not credited to the project and alternatives in this analysis.

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

4.7.11.2 Alternative 2

Alternative 2 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 2,000 sf of drive-through restaurant uses, which represents a reduction of 4,000 sf of drive-through restaurant uses as compared to the proposed project. Specifically, Alternative 2 would provide 80 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing and grading, would not significantly change with the implementation of Alternative 2. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 2. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 2. Under Alternative 2, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

For the reasons stated above, it can be assumed that construction-related GHG emissions generated under Alternative 2 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.7.6, Project Impacts, GHG emissions generated during construction of the proposed project would be temporary and would cease upon project completion. Similarly, GHG emissions generated during construction of Alternative 2 would be temporary, would cease upon project completion, and would not result in a permanent increase in emissions, and therefore, impacts would be less than significant.

Implementation of Alternative 2 would result in long-term operational GHG emissions. Table 4.7.F compares the long-term operational GHG emissions of Alternative 2 and the proposed project.

Table 4.7.F: Alternative 2 Operational Greenhouse Gas Emissions

| Emissions Source | CO ₂ e (MT/yr) |
|--|---------------------------|
| Alternative 2 (2,000 sf of Restaurant Uses) | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 437 |
| Mobile Source Emissions | 1,706 |
| Solid Waste Hauling & Decomposition Emissions | 691 |
| Water & Wastewater Conveyance Emissions | 92 |
| Material Handling Equipment | 211 |
| Total Emissions | 3,140 |
| Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 526 |
| Mobile Source Emissions | 2,741 |
| Solid Waste Hauling & Decomposition Emissions | 714 |
| Water & Wastewater Conveyance Emissions | 101 |
| Material Handling Equipment | 211 |
| Total Emissions | 4,293 |
| Alternative 2 Compared to Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | -89 |
| Mobile Source Emissions | -1,035 |
| Solid Waste Hauling & Decomposition Emissions | -23 |
| Water & Wastewater Conveyance Emissions | -6 |
| Material Handling Equipment | 0 |
| Total Difference in Emissions | -1,153 |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

Note: Construction emissions were not included in the alternatives analysis. Consequently, the existing conditions on the project site were not credited to the project and alternatives in this analysis.

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

sf = square feet

As shown in Table 4.7.F, Alternative 2 would result in 1,153 MT per year fewer CO₂e emissions as compared to the proposed project. As such, impacts under Alternative 2 would be slightly less, similar to the proposed project and less than significant.

Similar to the proposed project, Alternative 2 would not conflict with the goals of the 2016–2040 RTP/SCS. Additionally, Alternative 2 would not be considered regionally significant per *State CEQA Guidelines* Section 15206. Thus, the project would not conflict with the 2016–2040 RTP/SCS targets because those targets were established and are applicable on a regional level.

Alternative 2 would have less than significant impacts with respect to GHG emissions. Overall, impacts to GHG emissions under Alternative 2 are reduced, but similar to impacts associated with the proposed project. Because impacts related to GHG emissions for Alternative 2 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.

4.7.11.3 Alternative 3

Alternative 3 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 4,000 sf of drive-through restaurant uses, which represents a reduction of 2,000 sf of drive-through restaurant use as compared to the proposed project. Specifically, Area A would provide 101 parking spaces, compared to 62 parking spaces provided as part of the project. Under Alternative 3, these additional parking spaces would be used by the drive-through restaurant use.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, construction phasing, and grading, would not significantly change under the implementation of Alternative 3. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 3. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 3. Under Alternative 3, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

For the reasons stated above, it can be assumed that construction-related GHG emissions generated under Alternative 3 would be similar, but slightly less, than emissions expected under the proposed project. As discussed in Section 4.7.6, Project Impacts, GHG emissions generated during construction of the proposed project would be temporary and would cease upon project completion. Similarly, GHG emissions generated during construction of Alternative 3 would be temporary, would cease upon project completion, and would not result in a permanent increase in emissions, and therefore, impacts would be less than significant.

Implementation of Alternative 3 would result in long-term operational GHG emissions. Table 4.7.G compares the long-term operational GHG emissions of Alternative 3 and the proposed project.

As shown in Table 4.7.G, Alternative 3 would result in 686 MT per year fewer CO₂e emissions as compared to the proposed project. As such, impacts under Alternative 3 would be slightly less, but similar to the proposed project and less than significant.

Table 4.7.G: Alternative 3 Operational Greenhouse Gas Emissions

| Emissions Source | CO ₂ e (MT/yr) |
|--|---------------------------|
| Alternative 3 (4,000 sf of Restaurant Uses) | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 482 |
| Mobile Source Emissions | 2,113 |
| Solid Waste Hauling & Decomposition Emissions | 703 |
| Water & Wastewater Conveyance Emissions | 98 |
| Material Handling Equipment | 211 |
| Total Emissions | 3,607 |
| Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | 526 |
| Mobile Source Emissions | 2,741 |
| Solid Waste Hauling & Decomposition Emissions | 714 |
| Water & Wastewater Conveyance Emissions | 101 |
| Material Handling Equipment | 211 |
| Total Emissions | 4,293 |
| Alternative 3 Compared to Project Buildout | |
| Area Source Emissions | 0 |
| Energy Source Emissions | -44 |
| Mobile Source Emissions | -628 |
| Solid Waste Hauling & Decomposition Emissions | -11 |
| Water & Wastewater Conveyance Emissions | -3 |
| Material Handling Equipment | 0 |
| Total Difference in Emissions | -686 |

Source: *Air Quality & Greenhouse Gas Assessment* (ECORP 2019a).

Note: Construction emissions were not included in the alternatives analysis. Consequently, the existing conditions on the project site were not credited to the project and alternatives in this analysis.

CO₂e = carbon dioxide equivalent

MT/yr = metric tons per year

sf = square feet

Similar to the proposed project, Alternative 3 would not conflict with the goals of the 2016–2040 RTP/SCS. Additionally, Alternative 3 would not be considered regionally significant per *State CEQA Guidelines* Section 15206. Thus, the project would not conflict with the 2016–2040 RTP/SCS targets because those targets were established and are applicable on a regional level.

Alternative 3 would have less than significant impacts with respect to GHG emissions. Overall, impacts to GHG emissions under Alternative 3 are reduced, but similar to impacts associated with the proposed project. Because impacts related to GHG emissions for Alternative 3 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant.