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**RE: Fitch Residential Lot Split - PDS2022-TPM-21331, Greenhouse Gas Screening Letter San Diego County**

The purpose of this greenhouse gas (GHG) screening assessment, conducted for the Fitch Lot Split (TPM 21331) Residential Development (Project), is to determine GHG significance under the California Environmental Quality Act (CEQA) from both the construction and operations of the Project. More specifically, this screening analysis is to provide documentation showing Project conformance with greenhouse gas laws and regulations. Specific GHG regulations and policies are attached to this letter in ***Attachment A***.

The County of San Diego "County" is currently working on GHG specific significance thresholds though none are established as of the date of this report. Based on this, the County does recognize other methodologies to show compliance under CEQA. The County has found that consistency with the 2022 Scoping Plan is a suitable threshold of significance (CARB, 2022). The plan is a roadmap which provides general recommendations that local agencies could adopt to help the State achieve the overall scoping plan goal of achieving carbon neutrality by 2045 or earlier. The 2022 Scoping Plan extends and expands upon these earlier plans by reducing anthropogenic emissions to 85 percent below 1990 levels by 2045.

Appendix "D" of CARB's 2022 Scoping Plan recommends local jurisdictions such as the County of San Diego develop a Climate Action Plans (CAP) and provides some recommendations but ultimately leaves flexibility to the local jurisdiction to meet requirements for the local jurisdiction. Appendix D has multiple examples of areas local CAPs could consider. A couple of examples is for Projects to reduce energy demand by installing solar and reducing mobile emissions by include infrastructure for electric vehicles (CARB, 2022). Measures such as these should be included as part of CEQA analyses to reduce GHG emissions. Among other strategies, it is expected that the County will consider recommendations within Appendix D of the 2022 Scoping Plan to develop the County CAP.

The project is Tentative Parcel Map to divide a 2.65-acre parcel into 3 single-family lots. There are multiple structures onsite which include a single-family residential unit, two existing garages

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and a workshop/shed. All structures onsite have been permitted by the County. The intent is to subdivide the parcel into three separate lots. The workshop structure would be converted to a single-family residential unit located on Parcel 1. The existing single-family structure and additional dwelling unit and the two garages will remain on Parcel 2. In the future a new single-family structure will be constructed on Parcel 3. This plan would mean that only one structure would be constructed. Minimal construction work would be required at the workshop to convert this structure to a single-family home. Grading onsite calls for as much as 120 CY of cut and 60 CY of fill with as much as 60 CY of soil being exported.

The existing development has a 7.8 kW photovoltaic (PV) system on the rooftop of the workshop on Parcel 1 and 8.4 kW of PV on the structures at Parcel 2. The Project would construct a single-family unit on Parcel 3 and would install PV on the roof. Limited work would be required on Parcel 1 since the structures exist and no additional work is required for Parcel 2.

Construction is anticipated to start as soon as early 2026 for Parcel 3 and be completed as soon as 4 months later. The first full year of operations is expected in 2027. Greenhouse Gas impacts related to construction and daily operations were calculated using CalEEMod Version 2022.1 air quality model, which was developed by South Coast Air Quality Management District (SCAQMD). The CalEEMod input/output model is provided in **Attachment B**.

Project design features (PDFs 1-2) are included in the Project but have not been modeled. The applicant has agreed to implement all PDFs and will be included in the Project's Conditions of Approval. A list of the PDFs is provided below and within this analysis.

PDF 1: The Project would install enough solar on the roof of the new structure at Parcel 3 to offset any potential gas or electrical energy estimated. The other existing solar PV systems at Parcels 1 and 2 would not be altered as part of this Project. The calculated PV size to achieve the intent of this PDF is provided in the operations calculations below.

PDF 2: The Project will ensure that the new residential unit will install the wiring for Electric Vehicle (EV) supply Equipment (EVSE). This will ensure the Project would have the potential to reduce VMT from gasoline or diesel-powered vehicles (California - CGBSC, 2022).

## **Construction Activities**

CalEEMod has been updated to reflect the anticipated construction activities and dates identified in Table 1. Based on the construction model outputs shown in Table 2, we find that construction of the project will produce approximately 46.6 MT CO<sub>2</sub>e/year during the construction period. This estimate has been completed for the construction of a new home on Parcel 3. However, since there is a conversion expected at Parcel 1, additional worker and vendor trips were added to CalEEMod. Therefore, this estimate is conservative. Since GHG emissions are typically

reported on an annual basis, it is acceptable to average the total construction emission over the life of the Project, which is assumed to be 30 years. This methodology was recommended by SCAQMD (SCAQMD, 2008). Based on this, the project would add 1.55 MT CO<sub>2</sub>e per year.

**Table 1: Expected Construction Equipment**

Equipment Identification	Proposed Start	Proposed Complete	Quantity
<b>Site Preparation</b>	1/16/2026	1/17/2026	
Graders			1
Tractors/Loaders/Backhoes			1
<b>Grading</b>	1/18/2026	1/20/2026	
Graders			1
Rubber Tired Dozers			1
Tractors/Loaders/Backhoes			1
<b>Building Construction</b>	1/21/2026	6/10/2026	
Cranes			1
Forklifts			1
Tractors/Loaders/Backhoes			1
<b>Paving</b>	6/11/2026	6/18/2026	
Cement and Mortar Mixer			1
<b>Architectural Coating</b>	6/19/2026	6/26/2026	
Air Compressors			1

This equipment and durations were selected based on CalEEMod defaults in CalEEMod 2022.1

**Table 2: Expected Construction CO<sub>2</sub>e Emissions Summary MT/Year**

Year	NBio-CO2	Total CO2	CH4	N2O	Refrigerants	CO2e
2026	46.4	46.4	< 0.005	< 0.005	< 0.005	46.6
<b>Yearly Average Construction Emissions (Metric Tons/year over 30 years)</b>						<b>1.55</b>

**Operations**

Project operations would be expected in 2027. CalEEMod 2022.1 was also utilized for the operational GHG emissions calculations. CalEEMod default settings were utilized for all sources. The Project would also include Solar and EVSE which would be generally consistent with goals for the State to achieve goals outlined in the 2022 Scoping Plan.

*Solar Calculations:*

The project aims to install enough solar capacity to offset both electrical and natural gas/propane energy usage. Based on CalEEMod outputs, the project will utilize 6,141 kilowatt-hours (kWh) of electricity per year and 28,517 thousand British Thermal Units (kBtu) of natural gas/propane per year. To determine the solar sizing for PDF1, we converted the natural gas/propane energy content from kBtu to kWh. The standard conversion rate for natural gas is 3.412 kBtu/kWh. Therefore, the energy usage from natural gas is approximately 8,357 kWh/year. Combined, the Project would use 14,498 kWh per year. Since Natural Gas is already onsite and being utilized at Parcel 1 and Parcel 2, the use of Natural Gas will remain. In addition, since Parcel 3 will be installed at Parcel 3, the solar installed on the rooftop would adequately offset the GHG emissions generated by Natural Gas since all solar on the rooftops installed would offset GHG emissions from SDG&E’s non-renewable generation.

The annual energy estimates for system of this size were estimated from the PVWatts Calculator provided by the National Renewable Energy Laboratory(NREL, 2024) and shown as **Attachment C** to this report. Based on this, the Project would require 8.6 kW of solar which will generate 14,612 kWh annually. This analysis only shows the amount of solar required to offset the Project energy and does not calculate GHG reductions. In addition, since only one home is constructed and the remaining uses exist, no additional work or additional solar would be required.

Based upon the CalEEMod calculations, the annual emissions from operations and construction would be 82.65 MT CO<sub>2</sub>e per year. The results of the modeling are provided in Table 3 below.

**Table 3: Operational Emissions Summary MT/Year**

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	Refrigeration GHG emissions	CO2e (MT/Yr)
Mobile	*	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Area	1.03	0.44	1.48	< 0.005	< 0.005	*	1.52
Energy	*	3.15	3.15	< 0.005	< 0.005	*	3.16
Water	0.01	0.37	0.38	< 0.005	< 0.005	*	0.42
Waste	0.06	0	0.06	0.01	0	*	0.22
HVAC	*	*	*	*	*	< 0.005	< 0.005
<b>Amortized Construction Emissions (Table 5.1 above)</b>							<b>1.55</b>
<b>Total Operations (MT/Year)</b>							<b>18.07</b>
Data is presented in decimal format and may have rounding errors. * No Data Provided							

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## **2022 Scoping Plan Consistency**

The Proposed Project would generate 18.07 MT CO<sub>2</sub>e per year after the Project is fully operational. These emissions would be decreased as State and Local policies are changed to reflect goals outlined in the 2022 Scoping Plan, many of which are external to the Project. The County of San Diego is working to prepare a CAP as suggested by the 2022 Scoping Plan. As noted, the Project would include PDFs, which includes the installation of solar panels and the installation of EVSE infrastructure which is consistent with recommendation in the 2022 Scoping Plan.

With the incorporation of the PDFs, the Project would reduce GHG emissions and would be consistent with the 2022 Scoping Plan roadmap. In addition, the Project would be consistent with the County's General Plan since the Project would not require zoning modifications. In addition, the Project would be consistent with SANDAGs RTP/SCS since EVSE infrastructure would be installed. Increasing EVSE infrastructure helps incentivize adoption of EV. Without a qualified CAP or local adopted thresholds, the significance of the proposed Project's GHG emissions is based on consistency with these plans for reducing GHG emissions.

### Project Actions:

Based on this analysis, the Project would incorporate 2 PDFs. Which are as follows:

- PDF 1: The Project would install enough solar on the roof of the new structure at Parcel 3 to offset any potential gas or electrical energy estimated. The other existing solar PV systems at Parcel 1 and 2 would not be altered as part of this Project. The calculated PV as calculated above to achieve the intent of this PDF is 8.6 kW.
- PDF 2: The Project will ensure that the new residential unit will install the infrastructure for Electric Vehicle (EV) supply Equipment (EVSE). This will ensure the Project would have the potential to reduce VMT from gasoline or diesel-powered vehicles (California - CGBSC, 2022).

As discussed above, the project would be considered less than significant for GHG emissions. If you have any questions, please do not hesitate to contact me directly at (760) 473-1253.

Sincerely,  
Ldn Consulting, Inc.

**DRAFT**

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**Attachments:**

Attachment A: GHG Regulatory Requirements

Attachment B: CALEEMOD Inputs/Outputs

Attachment C: PV Watts Solar Outputs

**Sources:**

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## **Attachment A: CLIMATE CHANGE REGULATORY ENVIRONMENT**

### **Federal**

#### **Massachusetts v. US Environmental Protection Agency (EPA)**

On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the EPA Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs such as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF<sub>6</sub>) within the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the “cause or contribute finding.”

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

#### **Federal Vehicle Standards.**

On May 14, 2007, Executive Order (EO) 13432 was signed by President George Bush. This EO directed the EPA, the Department of Transportation (DOT), and the Department of Energy (DOE) to establish GHG emissions regulations from the transportation sector.

This EO led to the Federal Government establishing stricter fuel efficiency and GHG emissions regulations for vehicles manufactured starting in 2012 which effectively updated the Corporate Average Fuel Economy (CAFE) Standards which was first enacted in 1975 (DOT, 2014). These CAFE standards have been updated regularly and each time they are, Vehicle efficiency requirements become more stringent.

In May 2022, the National Highway Traffic Safety Administration (NHTSA) published rules finalizing revised fuel economy standards for passenger cars and light trucks for 2024-2025 and

the standards increase at a rate of 8 percent per year. Then in 2026 an increase in the efficiency standard by 10 percent would be required. NHTSA estimates that the industry fleet-wide average will be 49 mpg in 2026. (NHTSA, 2022).

In July 2023, NHTSA proposed new CAFE standards for passenger cars and light trucks built in model years 2027-2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2030-2035. If finalized, the proposal would require an industry fleet-wide average of approximately 58 miles per gallon for passenger cars and light trucks in MY 2032, by increasing fuel economy by 2% year over year for passenger cars and by 4% year over year for light trucks. (NHTSA, 2023)

## **State**

### *Executive Order S-3-05*

EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.

### *AB 32 and CARB's Climate Change Scoping Plan*

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, the CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and regulations necessary to achieve the GHG emissions reduction mandate of AB 32. Therefore, in furtherance of AB 32, CARB adopted regulations requiring the reporting and verification of GHG emissions from specified sources, such as industrial facilities, fuel suppliers and electricity importers (see Health & Safety Code Section 35830; Cal. Code Regs., tit. 17, §§95100 et seq.). CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, at the State level CARB will continue monitoring compliance and enforcing rules, regulation, emission limitations, emission reduction measures, or market-based compliance mechanisms adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for the year 2020 consistent with the determined 1990 baseline (427 million metric tons (MMT) CO<sub>2</sub>e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* in accordance with Health and Safety Code Section 38561. The *Scoping Plan* established an overall framework for the measures that will be implemented to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The 2008 *Scoping Plan* evaluated opportunities for sector-specific reductions, integrated all CARB and Climate Action Team<sup>1</sup> early actions and additional GHG reduction features by both entities, identified additional measures to be pursued as regulations, and outlined the role of a cap-and-trade program. The key elements of the 2008 *Scoping Plan* include the following (CARB, 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33 percent.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the 2008 *Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and

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<sup>1</sup> The Climate Action Team is comprised of state agency secretaries and heads of state agencies, boards and departments; these members work to coordinate statewide efforts to implement GHG emissions reduction programs and adaptation programs.

the availability of updated information about GHG reduction regulations (CARB, 2011). Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (12 percent to 20 percent), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)*. The stated purpose of the *First Update* was to “highlight California’s success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.” The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050.” Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identified key recommended actions for each sector that will facilitate achievement of EO S-3-05’s 2050 reduction goal.

Based on CARB’s research efforts presented in the *First Update*, it has a “strong sense of the mix of technologies needed to reduce emissions through 2050.” Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state’s 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO<sub>2</sub>e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

In November 2017, CARB released *California's 2017 Climate Change Scoping Plan (Second Update)* for public review and comment (CARB, 2017). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in SB 32 (discussed below). The strategy includes continuing the Cap-and-Trade Program through 2030<sup>2</sup>, inclusive policies and broad support for clean technologies, enhanced industrial efficiency and competitiveness, prioritization of transportation sustainability, continued leadership on clean energy, putting waste resources to beneficial use, supporting resilient agricultural and rural economics and natural and working lands, securing California's water supplies, and cleaning the air and public health.

When discussing project-level GHG emissions reduction actions and thresholds, the *Second Update* states "[a]chieving no additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." However, the *Second Update* also recognizes that such an achievement "may not be feasible or appropriate for every project ... and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA." CARB's Governing Board adopted the *Second Update* in December 2017.

#### *CARB's Climate Change Scoping Plan Update 2022*

In 2022 California released the latest scoping plan update which lays out the sector-by-sector roadmap for California to achieve carbon neutrality by 2045. This plan, addressing recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045 (CARB, 2022). The plan suggests that bold steps are required by the State and calls for the need of vast research and development with respect to methods of capturing CO<sub>2</sub>. The plan calls for a need to take an unprecedented transformation and aggressively seek reductions to reduce the need of fossil fuels by moving to zero emission transportation, electrifying the cars, buses, trucks and trains. The plan relies on external controls and requires partnership and collaboration with the federal government, other U.S. states, and other jurisdictions around the world for California to succeed in achieving its climate targets.

The 2022 Scoping Plan includes key actions to support success in the necessary transition away from fossil combustion. Among the actions listed is decarbonizing the electricity sector; which depends on both using energy more efficiently and replacing fossil-fueled generation with renewable and zero carbon resources, including solar, wind, energy storage, geothermal, biomass, and hydroelectric power. Another action includes expanding incentive programs to support the holistic retrofit of existing buildings. Buildings have cross-sector interactions that

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<sup>2</sup> In July 2017, AB 398 was enacted into law, thereby extending the legislatively authorized lifetime of the Cap-and-Trade Program to December 31, 2030.

influence public health and well-being and affect energy use. There are about 14 million existing homes and over 7.5 billion square feet of existing commercial buildings in California. Fossil gas supplies about half of the energy consumed by end uses in these buildings. In achieving carbon neutrality, transitioning away from fossil gas in existing residential and commercial buildings is an important action item.

Section 4.1.2 of Appendix "D" of CARB's 2022 Scoping Plan recommends exploring options to fund or implement local, offsite direct GHG reduction strategies. Examples include local building retrofit programs targeting existing residential and commercial buildings that result in the installation of solar panels and other such measures in exchange for being credited with the resulting GHG reductions in a project's CEQA analyses. Such offsite mitigation measures, "are viable options for mitigation under CEQA and would not be double counted, provided they are not otherwise required by law or regulation and would not have happened but for the mitigation requirements of the project." (CARB, 2022)

#### *AB 97*

AB 97 was enacted in 2007 and expressly recognized the need to analyze GHG emissions as a part of the CEQA process. AB 97 required the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines for GHG emissions (Pub. Resources Code, §21083.05.)

#### *EO B-30-15*

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's *Scoping Plan* to express the 2030 target in terms of MMT CO<sub>2</sub>e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016.

#### *SB 32 and AB 197*

SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction target; make changes to CARB's membership and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030

emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies.

AB 197 also added two members of the Legislature to CARB as nonvoting members. The legislation further requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and identify specific information for GHG emissions reduction measures when updating the scoping plan, including information regarding the range of projected GHG emissions and air pollution reductions that result from each measure and the cost-effectiveness (including avoided social costs) of each measure (see Health & Safety Code Section 38562.7).

### *EO B-55-18*

In 2018, the Governor expanded upon EO S-3-05 by issuing Executive Order B-55-18 and creating a statewide goal of carbon neutrality by 2045. EO B-55-18 identifies CARB as the lead agency to develop a framework for implementation and progress tracking toward this goal. It should be noted that consistency with a statewide carbon neutrality target by 2045 represents the Governor's policy goal but is not required to make a significance determination. The state has already determined that 80 percent below 1990 levels by 2050 is a long-term target that represents California's share of emissions reductions to stabilize and limit global warming and "avoid dangerous climate change". EO B-30-15 sets forth the 2050 target endorsed by the Intergovernmental Panel on Climate Change's finding and notes that the state's 2050 target will "attain a level of emissions necessary to avoid dangerous climate change" because it may limit global warming to 2 degrees Celsius by 2050.

In 2022 California released the latest scoping plan update which lays out the sector-by-sector roadmap for California to achieve carbon neutrality by 2045. This plan, addressing recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045 (CARB, 2022). The plan suggests that bold steps are required by the State and calls for the need of vast research and development with respect to methods of capturing CO<sub>2</sub>. The plan calls for a need to take an unprecedented transformation and aggressively seek reductions to reduce the need of fossil fuels by moving to zero emission transportation, electrifying the cars, buses, trucks and trains. The plan relies on external controls and requires partnership and collaboration with the federal government, other U.S. states, and other jurisdictions around the world for California to succeed in achieving its climate targets.

## *Assembly Bill 1279*

In 2022, the Governor approved Assembly Bill 1279 (AB 1279) (State of California, 2022) which requires the state board to prepare and approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions and to update the scoping plan at least once every 5 years. This bill, the California Climate Crisis Act, would declare the policy of the state both to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and achieve and maintain net negative greenhouse gas emissions thereafter, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85% below the 1990 levels.

## *Title 20*

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

## Building Energy

### *Title 24, Part 6*

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new buildings and alterations or additions to existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these

standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current code requirement is based on the 2022 standards, as those standards went into effect on January 1, 2023. The 2022 standards have mandatory requirements to reduce building envelope air leakage, improve roofing through Solar Reflectance and Thermal Emittance, improve on insulation, improve on space conditioning, water heating and plumbing, and improve on lighting efficiency requirements, to name a few. The project will be required to implement Title 24 2022 or the code cycle relevant at the time of building permit issuance.

### *Title 24, Part 11*

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards initially took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- Sixty-five (65) percent of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.
- Inclusion of EV charging stations or designated spaces capable of supporting future charging stations.
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements; stricter water conservation, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 75 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

The latest CALGreen Standards were updated in 2022 and became effective on January 1, 2023. The updated Code includes modifications to current codes and is currently a requirement for this Project. Mandatory requirements include many updated Electric Vehicle Charging requirements for multi- and single-family developments (California Title 24, Part 11, 2022).

### Mobile Sources

#### *AB 1493*

In response to the transportation sector accounting for more than half of California's CO<sub>2</sub> emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004 (CARB, Clean Car Standards - Pavley, Assembly Bill 1493, 2017).

#### *EO S-1-07*

Issued in January 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO<sub>2</sub>e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009.

The latest amendment to LCFS implementation regulations was in 2018 via CARB approved amendments which included strengthening and smoothing the carbon intensity benchmarks

through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32 (CARB, 2018).

### *SB 375*

SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan. The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible and if implemented, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The 2010-adopted targets for SANDAG are a 7 percent reduction in emissions per capita by 2020 and a 13 percent reduction by 2035; the targets are expressed as a percent change in per capita passenger vehicle GHG emissions relative to 2005.

In October 2015, SANDAG adopted *San Diego Forward: The Regional Plan*, which contains the region's current SCS. In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. More specifically, as set forth in CARB Executive Order G-15-075, CARB determined that SANDAG's SCS would achieve a 15 percent per capita reduction by 2020 and a 21 percent per capita reduction by 2035.

In 2018, CARB updated the SB 375 targets. For purposes of SANDAG, the updated targets include a 15 percent reduction in emissions per capita by 2020 and a 19 percent reduction by 2035. SANDAG approved the 2021 Regional Plan in December 2021. The Plan provides a big picture vision for how the San Diego region will grow through 2050 and beyond with an implementation program to help make the plan a reality. Within the Draft Plan, SANDAG introduced a transformative vision for transportation in San Diego County that completely reimagines how people and goods could move throughout the region in the 21st century. The plan outlines the "5 Big Moves" which are: Complete Corridors, Transit Leap, Mobility Hubs, Flexible Fleets, and the Next OS. This plan is the region's long-term plan which will be implemented incrementally through the Regional Transportation Improvement Program (RTIP) (SANDAG, 2021).

### *Advanced Clean Cars Program*

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2017). To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, also has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025 compared to 2017 (CARB, 2012).

The Zero Emission Vehicle (ZEV) program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles (PHEVs) in the 2018 to 2025 model years (California Air Resources Board, 2017).

This program was recently updated and is known as the Advanced Clean Cars II (ACC II) Program. The ACC II regulations will rapidly scale down emissions of light-duty passenger cars, pickup trucks and SUVs starting with the 2026 model year through 2035. The regulations are two-pronged. First, it amends the ZEV Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. Second, the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions (CARB, 2023).

### *EO B-16-12*

EO B-16-12 (March 2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution of ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80 percent less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet. As of January 2018, the Governor has called for as many as 1.5 million EV by 2025 and up to five million EV by 2030 (Office of Governor Edmund G. Brown Jr., 2018).

### *EO N-79-20*

EO N-79-20 (September 2020) Governor Gavin Newsom signed EO N-79-20 in 2020 and it requires that 100 percent of new car sales in California be ZEVs by 2035. The plan targets 35 percent ZEV sales by 2026, 68 percent by 2030, and 100 percent by 2035 (CARB, 2023).

### *AB 1236*

AB 1236 (2015), as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified. In August 2016, the County Board of Supervisors adopted Ordinance No. 10437 adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

### *SB 350*

In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code Section 740.12).

## Renewable Energy Procurement

### *SB 1078*

SB 1078 (2002) established the Renewables Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1 percent of sales, with an aggregate goal of 20 percent by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20 percent of their power from renewable sources by 2010.

### *SB X1 2*

SB X1 2 (2011) expanded the RPS by establishing that 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under

the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

### *SB 350*

SB 350 (2015) further expanded the RPS by establishing that 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030 be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency.

### *SB 100*

SB 100 (2018) further accelerated and expanded the RPS and requires an achievement of a 50 percent RPS by December 31, 2026 and a 60 percent RPS by December 31, 2030. SB 100 also established a new statewide policy goal that calls for eligible renewable energy resources and zero-carbon resources to supply 100 percent of electricity retail sales and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

### *SB 1020*

In 2022, the Governor approved SB 1020 (State of California, 2022). This bill requires the state board to conduct a series of public workshops to give interested parties an opportunity to comment on the plan and requires a portion of those workshops to be conducted in regions of the state that have the most significant exposure to pollutants. This bill includes as regions for these workshops federal extreme nonattainment areas that have communities with minority populations, communities with low-income populations, or both.

Under existing law, it was the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of all retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.

This bill revised the state policy to instead provide that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by

December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as specified.

## Water

### *EO B-29-15*

In response to drought-related concerns, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

## Solid Waste

### *AB 939 and AB 341*

In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction in waste being disposed wherein jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal.

### *AB 1826 (2014)*

In October 2014 Governor Brown signed AB 1826 which requires businesses to recycle their organic waste as of April 1, 2016. The law also required that after January 1, 2016, local jurisdictions across the state were required to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that

consist of five or more units. This required business generating over 8 cubic yards (CY) of waste per a week to arrange organic waste recycling services. The law also contained a trigger that allowed for increased implementation. For example, in 2019 CalRecycle changed the 8 CY threshold to 4 CY and then in 2020 to CY for business to implement organic recycling programs (CalRecycle, 2023).

## **Local Regulations**

### County of San Diego General Plan

The County's General Plan Update (approved in 2011) provides smart growth and land use planning principles designed to reduce GHG emissions. GHG reduction policies are addressed within multiple elements of the General Plan Update. The strategies for reduction of GHG emissions in the General Plan Update include reducing vehicle miles traveled (VMT), energy consumption, water consumption and solid waste. The General Plan Update also discusses the increased generation and use of renewable energy sources to reduce non-renewable electrical and natural gas energy consumption.

A project's adherence to the County's General Plan can be determined through demonstrating consistency with General Plan land use assumption and policies. If a project would generate fewer GHG emissions than the maximum allowable buildout of the site under the General Plan land use designations, the project would have a less than significant GHG impact under CEQA. Further consistency with the General Plan can be demonstrated through compliance with applicable General Plan policies.

## **Framework for CEQA Analysis**

A number of agencies throughout the state, including multiple air districts, have drafted and/or adopted varying threshold approaches and guidelines for analyzing GHG emissions and global climate change in CEQA documents. The State of California has developed guidelines to address the significance of climate change impacts based on Appendix G of the CEQA Guidelines

### Appendix G of the CEQA Guidelines

Appendix G of the CEQA Guidelines was revised December 28, 2018. According to Appendix G, a project would have a significant environmental impact related to GHGs if it would:

- 1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

*2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

For purposes of this analysis, the two Appendix G checklist questions set forth above are utilized as the thresholds of significance when evaluating the environmental effects of the project's GHG emissions. In applying these thresholds, reference is made to CEQA Guidelines Section 15064.4(b)(1)-(3).

CEQA Guidelines Section 15064.4 states that the "determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." Section 15064.4(b) further states a lead agency should consider the following nonexclusive list of factors when assessing the significance of GHG emissions:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. The extent to which project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement statewide, regional, or local plans for the reduction or mitigation for GHG emissions.

CEQA Guidelines Section 15064(h)(1) states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." A cumulative impact may be significant when the project's incremental effect, though individually limited, is cumulatively considerable. As discussed above, climate change results from incremental contributions of GHG emissions on a global scale. Section 15064.4 states that the "determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." Section 15064.4(b)(1)-(3) further states that, "a lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment: (1) the extent to which a project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and, (3) the extent to which the project complies with regulations or requirements adopted to

implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

Recognizing that GHG emissions contribute to the cumulative impact condition of global climate change, section 15064(h)(1) of the CEQA Guidelines is also applicable. Section 15064(h)(1) states that “the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable.” A cumulative impact may be significant when the project’s incremental effect, though individually limited, is cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of other past, current, and reasonably foreseeable probable future projects. As discussed above, climate change is the product of incremental contributions of GHG emissions on a global scale.

Finally, Section 15064(h)(3) of the CEQA Guidelines is pertinent. Section 15064(h)(3) states that: “[a] lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program...that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.”

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# Fitch Lot Split Detailed Report

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5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Fitch Lot Split
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	8.00
Location	Via Diego & Los Coches Rd, Winter Gardens, CA 92040, USA
County	San Diego
City	Unincorporated
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6541
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.26

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1.00	Dwelling Unit	0.32	1,950	11,713	—	3.00	—

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	—	962	962	0.04	0.01	0.19	966
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	—	2,062	2,062	0.09	0.06	0.02	2,082
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	—	280	280	0.01	< 0.005	0.03	281
Annual (Max)	—	—	—	—	—	—	—
Unmit.	—	46.4	46.4	< 0.005	< 0.005	< 0.005	46.6

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2026	—	962	962	0.04	0.01	0.19	966
Daily - Winter (Max)	—	—	—	—	—	—	—
2026	—	2,062	2,062	0.09	0.06	0.02	2,082
Average Daily	—	—	—	—	—	—	—
2026	—	280	280	0.01	< 0.005	0.03	281
Annual	—	—	—	—	—	—	—
2026	—	46.4	46.4	< 0.005	< 0.005	< 0.005	46.6

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	28.2	104	132	0.08	< 0.005	0.23	136
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	28.2	101	129	0.08	0.01	0.02	132
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	6.69	90.8	97.5	0.06	< 0.005	0.11	100
Annual (Max)	—	—	—	—	—	—	—
Unmit.	1.11	15.0	16.1	0.01	< 0.005	0.02	16.6

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	—	71.1	71.1	< 0.005	< 0.005	0.22	72.2
Area	27.8	11.7	39.5	0.03	< 0.005	—	40.7
Energy	—	19.0	19.0	< 0.005	< 0.005	—	19.1
Water	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Waste	0.38	0.00	0.38	0.04	0.00	—	1.34
Refrig.	—	—	—	—	—	0.01	0.01
Total	28.2	104	132	0.08	< 0.005	0.23	136
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	—	67.9	67.9	< 0.005	< 0.005	0.01	68.9
Area	27.8	11.6	39.4	0.03	< 0.005	—	40.6
Energy	—	19.0	19.0	< 0.005	< 0.005	—	19.1

Water	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Waste	0.38	0.00	0.38	0.04	0.00	—	1.34
Refrig.	—	—	—	—	—	0.01	0.01
Total	28.2	101	129	0.08	0.01	0.02	132
Average Daily	—	—	—	—	—	—	—
Mobile	—	66.9	66.9	< 0.005	< 0.005	0.09	67.9
Area	6.24	2.68	8.92	0.01	< 0.005	—	9.19
Energy	—	19.0	19.0	< 0.005	< 0.005	—	19.1
Water	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Waste	0.38	0.00	0.38	0.04	0.00	—	1.34
Refrig.	—	—	—	—	—	0.01	0.01
Total	6.69	90.8	97.5	0.06	< 0.005	0.11	100
Annual	—	—	—	—	—	—	—
Mobile	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Area	1.03	0.44	1.48	< 0.005	< 0.005	—	1.52
Energy	—	3.15	3.15	< 0.005	< 0.005	—	3.16
Water	0.01	0.37	0.38	< 0.005	< 0.005	—	0.42
Waste	0.06	0.00	0.06	0.01	0.00	—	0.22
Refrig.	—	—	—	—	—	< 0.005	< 0.005
Total	1.11	15.0	16.1	0.01	< 0.005	0.02	16.6

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	43.9	43.9	< 0.005	< 0.005	< 0.005	44.5
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

## 3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	9.39	9.39	< 0.005	< 0.005	—	9.43
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	1.56	1.56	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	65.8	65.8	< 0.005	< 0.005	0.01	66.7
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	281	281	0.01	0.05	0.02	295
Average Daily	—	—	—	—	—	—	—
Worker	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.37
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	—	1.54	1.54	< 0.005	< 0.005	< 0.005	1.62
Annual	—	—	—	—	—	—	—
Worker	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27

### 3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	900	900	0.04	0.01	—	903
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	900	900	0.04	0.01	—	903
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	247	247	0.01	< 0.005	—	247
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	40.8	40.8	< 0.005	< 0.005	—	41.0
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	37.2	37.2	< 0.005	< 0.005	0.13	37.7
Vendor	—	24.6	24.6	< 0.005	< 0.005	0.06	25.7
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—

Worker	—	35.1	35.1	< 0.005	< 0.005	< 0.005	35.6
Vendor	—	24.6	24.6	< 0.005	< 0.005	< 0.005	25.7
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	9.71	9.71	< 0.005	< 0.005	0.02	9.85
Vendor	—	6.73	6.73	< 0.005	< 0.005	0.01	7.03
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	1.61	1.61	< 0.005	< 0.005	< 0.005	1.63
Vendor	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.16
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	56.3	56.3	< 0.005	< 0.005	—	56.5
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	0.77	0.77	< 0.005	< 0.005	—	0.77
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	0.13	0.13	< 0.005	< 0.005	—	0.13
Paving	—	—	—	—	—	—	—

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	37.2	37.2	< 0.005	< 0.005	0.13	37.7
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.49
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	—	—	—	—	—	—

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	18.6	18.6	< 0.005	< 0.005	0.07	18.9
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—

Single Family Housing	—	71.1	71.1	< 0.005	< 0.005	0.22	72.2
Total	—	71.1	71.1	< 0.005	< 0.005	0.22	72.2
Daily, Winter (Max)	—	—	—	—	—	—	—
Single Family Housing	—	67.9	67.9	< 0.005	< 0.005	0.01	68.9
Total	—	67.9	67.9	< 0.005	< 0.005	0.01	68.9
Annual	—	—	—	—	—	—	—
Single Family Housing	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Total	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Single Family Housing	—	9.91	9.91	< 0.005	< 0.005	—	9.94
Total	—	9.91	9.91	< 0.005	< 0.005	—	9.94
Daily, Winter (Max)	—	—	—	—	—	—	—
Single Family Housing	—	9.91	9.91	< 0.005	< 0.005	—	9.94
Total	—	9.91	9.91	< 0.005	< 0.005	—	9.94
Annual	—	—	—	—	—	—	—
Single Family Housing	—	1.64	1.64	< 0.005	< 0.005	—	1.65
Total	—	1.64	1.64	< 0.005	< 0.005	—	1.65

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—

Single Family Housing	—	9.14	9.14	< 0.005	< 0.005	—	9.16
Total	—	9.14	9.14	< 0.005	< 0.005	—	9.16
Daily, Winter (Max)	—	—	—	—	—	—	—
Single Family Housing	—	9.14	9.14	< 0.005	< 0.005	—	9.16
Total	—	9.14	9.14	< 0.005	< 0.005	—	9.16
Annual	—	—	—	—	—	—	—
Single Family Housing	—	1.51	1.51	< 0.005	< 0.005	—	1.52
Total	—	1.51	1.51	< 0.005	< 0.005	—	1.52

### 4.3. Area Emissions by Source

#### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Hearths	27.8	11.6	39.4	0.03	< 0.005	—	40.6
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	0.15	0.15	< 0.005	< 0.005	—	0.15
Total	27.8	11.7	39.5	0.03	< 0.005	—	40.7
Daily, Winter (Max)	—	—	—	—	—	—	—
Hearths	27.8	11.6	39.4	0.03	< 0.005	—	40.6
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Total	27.8	11.6	39.4	0.03	< 0.005	—	40.6
Annual	—	—	—	—	—	—	—
Hearths	1.03	0.43	1.46	< 0.005	< 0.005	—	1.51
Consumer Products	—	—	—	—	—	—	—

Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	1.03	0.44	1.48	< 0.005	< 0.005	—	1.52

### 4.4. Water Emissions by Land Use

#### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Single Family Housing	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Total	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Daily, Winter (Max)	—	—	—	—	—	—	—
Single Family Housing	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Total	0.07	2.22	2.29	0.01	< 0.005	—	2.51
Annual	—	—	—	—	—	—	—
Single Family Housing	0.01	0.37	0.38	< 0.005	< 0.005	—	0.42
Total	0.01	0.37	0.38	< 0.005	< 0.005	—	0.42

### 4.5. Waste Emissions by Land Use

#### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Single Family Housing	0.38	0.00	0.38	0.04	0.00	—	1.34
Total	0.38	0.00	0.38	0.04	0.00	—	1.34
Daily, Winter (Max)	—	—	—	—	—	—	—

Single Family Housing	0.38	0.00	0.38	0.04	0.00	—	1.34
Total	0.38	0.00	0.38	0.04	0.00	—	1.34
Annual	—	—	—	—	—	—	—
Single Family Housing	0.06	0.00	0.06	0.01	0.00	—	0.22
Total	0.06	0.00	0.06	0.01	0.00	—	0.22

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	0.01	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	0.01	0.01
Annual	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	< 0.005	< 0.005

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

#### 4.8. Stationary Emissions By Equipment Type

##### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

#### 4.9. User Defined Emissions By Equipment Type

##### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

#### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

#### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/16/2026	1/17/2026	5.00	1.00	—
Grading	Grading	1/18/2026	1/20/2026	5.00	2.00	—

Building Construction	Building Construction	1/21/2026	6/10/2026	5.00	100	—
Paving	Paving	6/11/2026	6/18/2026	5.00	5.00	—
Architectural Coating	Architectural Coating	6/19/2026	6/26/2026	5.00	5.00	—

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	4.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	4.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	1.00	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	4.00	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	3,949	1,316	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.50	0.00	—
Grading	—	60.0	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.01

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.01	0%

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	589	0.03	< 0.005

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
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Single Family Housing	9.44	9.54	8.55	3,404	86.9	87.8	78.7	31,325
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### 5.10. Operational Area Sources

#### 5.10.1. Hearths

##### 5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	1
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

#### 5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3948.75	1,316	0.00	0.00	—

#### 5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

### 5.11. Operational Energy Consumption

#### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,141	589	0.0330	0.0040	28,517

### 5.12. Operational Water and Wastewater Consumption

#### 5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	35,133	213,939

### 5.13. Operational Waste Generation

#### 5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	0.71	—

### 5.14. Operational Refrigeration and Air Conditioning Equipment

#### 5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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### 5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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## 5.17. User Defined

Equipment Type	Fuel Type
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## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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## 6. Climate Risk Detailed Report

### 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	17.2	annual days of extreme heat
Extreme Precipitation	4.70	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	11.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

### 6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

### 6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

### 6.4. Climate Risk Reduction Measures

## 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	69.3
AQ-PM	42.9
AQ-DPM	28.6
Drinking Water	66.9
Lead Risk Housing	28.3
Pesticides	0.00
Toxic Releases	27.8
Traffic	19.5
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	47.4
Haz Waste Facilities/Generators	47.4
Impaired Water Bodies	77.3
Solid Waste	0.00
Sensitive Population	—
Asthma	36.2
Cardio-vascular	28.1
Low Birth Weights	29.9
Socioeconomic Factor Indicators	—
Education	35.9
Housing	15.9
Linguistic	20.6
Poverty	38.1
Unemployment	43.1

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	59.6432696
Employed	82.34312845
Median HI	52.63698191
Education	—
Bachelor's or higher	41.07532401
High school enrollment	100
Preschool enrollment	22.25073784
Transportation	—
Auto Access	88.68215065
Active commuting	11.24085718
Social	—
2-parent households	29.32118568
Voting	83.81881175
Neighborhood	—
Alcohol availability	81.85551136
Park access	41.16514821
Retail density	22.16091364
Supermarket access	24.29103041
Tree canopy	34.03054023
Housing	—
Homeownership	76.19658668
Housing habitability	74.61824714
Low-inc homeowner severe housing cost burden	56.31977416
Low-inc renter severe housing cost burden	63.00526113

Uncrowded housing	54.63877839
Health Outcomes	—
Insured adults	72.20582574
Arthritis	16.8
Asthma ER Admissions	57.6
High Blood Pressure	54.9
Cancer (excluding skin)	19.8
Asthma	40.2
Coronary Heart Disease	34.0
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	61.5
Life Expectancy at Birth	46.4
Cognitively Disabled	68.5
Physically Disabled	86.7
Heart Attack ER Admissions	74.8
Mental Health Not Good	46.4
Chronic Kidney Disease	45.1
Obesity	55.2
Pedestrian Injuries	41.2
Physical Health Not Good	53.6
Stroke	45.2
Health Risk Behaviors	—
Binge Drinking	8.9
Current Smoker	41.5
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	8.9
SLR Inundation Area	0.0

Children	41.8
Elderly	26.8
English Speaking	79.4
Foreign-born	6.6
Outdoor Workers	31.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	80.5
Traffic Density	28.7
Traffic Access	23.0
Other Indices	—
Hardship	40.0
Other Decision Support	—
2016 Voting	79.0

### 7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	25.0
Healthy Places Index Score for Project Location (b)	60.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.  
 b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

### 7.4. Health & Equity Measures

No Health & Equity Measures selected.

### 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

## 8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Demolition would not be required
Construction: Off-Road Equipment	Limited Construction Required to construct one home... diesel equipment not required for small conversion project for existing workshop.
Construction: Trips and VMT	increased trips to be conservative



Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at //sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

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The energy output range is based on analysis of 30 years of historical weather data, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

# RESULTS

# 14,612 kWh/Year\*

System output may range from 14,045 to 14,704 kWh per year near this location.

Month	Solar Radiation ( kWh / m <sup>2</sup> / day )	AC Energy ( kWh )
January	4.55	953
February	5.09	964
March	5.92	1,199
April	6.94	1,366
May	6.48	1,285
June	7.41	1,401
July	7.64	1,480
August	7.61	1,488
September	7.10	1,345
October	6.06	1,200
November	4.94	978
December	4.53	952
<b>Annual</b>	<b>6.19</b>	<b>14,611</b>

## Location and Station Identification

Requested Location	wintergardens san diego ca
Weather Data Source	Lat, Lng: 32.85, -116.94 0.6 mi
Latitude	32.85° N
Longitude	116.94° W

## PV System Specifications

DC System Size	8.6 kW
Module Type	Premium
Array Type	Fixed (roof mount)
System Losses	14.08%
Array Tilt	20°
Array Azimuth	180°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	From weather file
Bifacial	No (0)

Monthly Irradiance Loss	Jan	Feb	Mar	Apr	May	June
	0%	0%	0%	0%	0%	0%
Monthly Irradiance Loss	July	Aug	Sept	Oct	Nov	Dec
	0%	0%	0%	0%	0%	0%

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**Performance Metrics**

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<b>DC Capacity Factor</b>	<b>19.4%</b>
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