Greenhouse Gas Assessment

Waters Park Residential

San Mateo, California

Prepared For:

City of San Mateo

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1.0 INTRODUCTION

This report documents the results of a greenhouse gas (GHG) emissions assessment completed for the Waters Park Residential Project in San Mateo, California. The purpose of this assessment is to estimate Project-generated GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment. This assessment is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD) for project-level review, as well as City of San Mateo protocols, and was prepared with consideration of the emissions reduction actions proposed by the Project. Information on Project-generated daily vehicle trips, the primary source of GHG emissions, was provided by Hexagon Transportation Consultants (2018). GHG emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Emissions modeling results are included in **Attachment A**.

1.1 Project Location

The proposed Project site is located on an 11.1-acre property in San Mateo currently occupied by an executive business park built in 1979. The property is centered on Borel Creek and neighbors the Lakeshore single family home community at the nexus of the Bayshore Freeway and the San Mateo Bridge (see **Figure 1**). The site is bound by residential neighborhoods to the south and east, a business park to the north, and Highway 101 to the west. The site is a stop on multiple, free SamTrans routes and is also served by a free a shuttle service that connects to both the Hayward Park and Hillsdale Caltrain stations located on the west side of Highway 101.

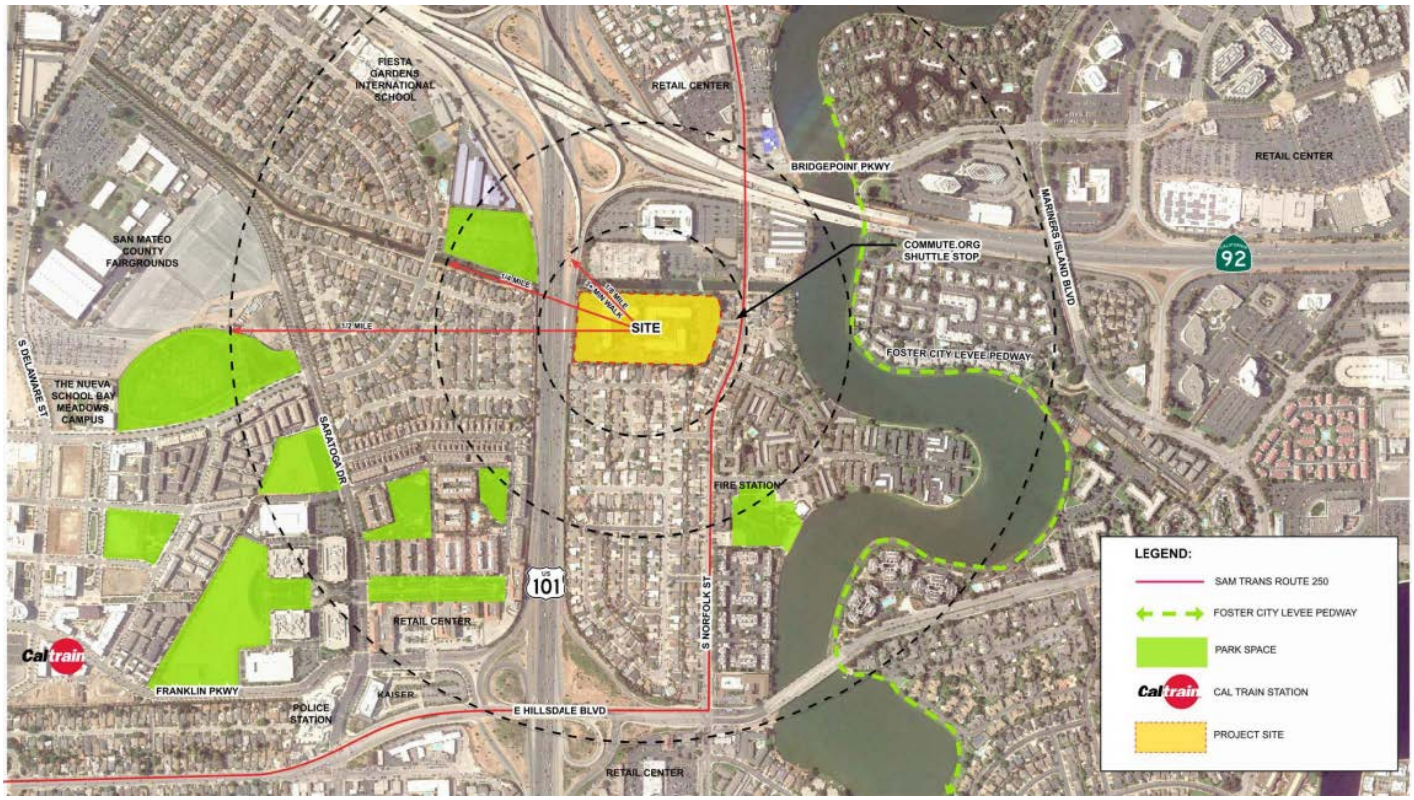
1.2 Project Description

The Project proposes to demolish the existing 164,709 square foot office park and 609 parking spaces. The proposed redevelopment would replace the office park with 190 new residences (434,419 square feet), including a mix of two-story detached single-family residences as well as 3 and 4 story attached townhomes and flats. The detached two-story single-family homes would flank the property boundary against the existing residential neighbors with a 15-foot setback from the property line. On the interior of the site, 3-4 story attached townhomes and flats would surround a new central community park and play area, communal garden, creek walk and dog park. The Project includes 380 garage parking spaces, 45 uncovered parking spaces, and 283 bicycle parking spaces.

The townhome-style condominiums are similar in style, size, and density to other existing townhome communities in San Mateo, notably Bay Meadows. The Project would provide optionality for new home buyers. Consistent with affordable housing requirements in the City of San Mateo, the Project will provide 10 percent affordable units onsite.

The Project proposes a General Plan Amendment from the site's existing designation of Executive Office, to Medium Density Multi-Family; as well as a Zoning Reclassification from Executive Park (E1) to Multiple Family Dwellings, Medium Density (R-3).

Figure 1 Location Map



2.0 GREENHOUSE GASES

2.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (IPCC 2014).

Table 2-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered

through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 2-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] EPA 2016a, [2] EPA 2016b, [3] EPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

2.1.1 Sources of Greenhouse Gas Emissions

In June 2017, CARB released the 2017 edition of the California GHG inventory covering calendar year 2015 emissions. In 2015, California emitted 440.4 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for approximately 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector (including both in-state and out-of-state sources) (19 percent) (CARB 2017a).

Emissions of CO_2 are by-products of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or

reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing carbon dioxide from the atmosphere.

2.2 Regulatory Framework

2.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

While dated, this executive order remains relevant because a more recent California Appellate Court decision, Cleveland National Forest Foundation v. San Diego Association of Governments (November 24, 2014) 231 Cal.App.4th 1056, examined whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. While the California Supreme Court ruled that the San Diego Association of Governments did not abuse its discretion by declining "to adopt the 2050 goal as a measure of significance in light of the fact that the Executive Order does not specify any plan or implementation measures to achieve its goal, the decision also recognized that the goal of a 40 percent reduction in 1990 GHG levels by 2030 is "widely acknowledged" as a "necessary interim target to ensure that California meets its longer-range goal of reducing greenhouse gas emissions 80 percent below 1990 levels by the year 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "...shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The [Air Resources Board] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

Assembly Bill 32 Climate Change Scoping Plan and Updates

In December 2008, CARB adopted its Climate Change Scoping Plan (CARB 2017b), which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons of CO_2e emissions, or approximately 21.7 percent from the State's projected 2020 emission level of 545 million metric tons of CO_2e under a business-as-usual scenario (this is a

reduction of 47 million metric tons of CO_2e, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and subsequently adopted the First Update to the Climate Change Scoping Plan to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012. According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020. The update also reports the trends in GHG emissions from various emissions sectors (e.g., transportation, building energy, agriculture).

On January 20, 2017, CARB released its proposed 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update), which lays out the framework for achieving the 2030 reductions as established in more recent legislation (Senate Bill 32 discussed below). The proposed 2017 Scoping Plan Update, approved by CARB's Governing Board in December 2017, identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level that is 40 percent below 1990 levels before 2030.

The update Scoping Plan also identifies how GHGs associated with proposed projects could be evaluated under CEQA. Specifically, it states that "achieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, 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."

Executive Order B-30-15

On April 20, 2015 Governor Brown signed Executive Order B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill X1-2 of 2011 and Senate Bill 350 of 2015

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly-owned utilities to procure 50 percent of their electricity from renewable resources by 2030.

2.2.2 Regional

Association of Bay Area Governments Final Plan Bay Area 2040

The Association of Bay Area Governments' (ABAG) Plan Bay Area is the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) for the San Francisco Bay Area. ABAG was tasked by CARB to achieve a 7 percent per capita reduction in mobile-source GHG emissions compared to 2005 vehicle emissions by 2020 and a 15 percent per capita reduction by 2035. Plan Bay Area 2040 establishes an overall mechanism to achieve these GHG targets for the Project region consistent with both the target date of AB 32 (2020) and the post-2020 GHG reduction goals of SB 32. CARB has confirmed the Project region will achieve its GHG reduction targets by implementing Plan Bay Area (CARB 2014).

Bay Area Air Quality Management District 2017 Clean Air Plan

The 2017 Plan provides a regional strategy to protect public health and protect the climate. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those greenhouse gas emissions reduction targets.

The 2017 Clean Air Plan includes a wide range of control measures designed to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

San Mateo Climate Action Plan

The City of San Mateo adopted a community-wide climate action plan (CAP) on April 6, 2015, which updates and consolidates the City's existing GHG Emissions Reduction Plan, Climate Action Plan for Municipal Operations and Facilities, and Sustainable Initiatives Plan based on the vision of San Mateo residents, businesses, and local government. The goal was to prepare a CAP that serves as an updated and Qualified GHG Reduction Strategy consistent with BAAQMD GHG Plan Level

Guidance and CEQA Guidelines Section 15183.5. The CAP was developed through a robust public process that engaged the San Mateo Sustainability Commission, staff, and the community.

A climate action plan is a comprehensive strategy for a community to reduce emissions of GHGs, which, according to scientific consensus, are primarily responsible for causing climate change. The San Mateo CAP includes five key pieces:

1. An inventory of the annual GHG emissions attributable to San Mateo based on the types of activities occurring within the community and guidance from various protocols and agencies. The City has inventories of emissions for 2005 and 2010.
2. A forecast of what GHG emissions are likely to look like in 2020 and 2030, based on expected population and economic growth adopted in the General Plan.
3. A reduction target, which identifies a goal for reducing GHG emissions by 2020 and 2030.
4. Reduction strategies, which describe the actions the community intends to take to achieve the reduction target. Each strategy identifies the amount of GHGs that will be reduced once the strategy is implemented. The CAP also estimates benefits of existing programs.
5. An implementation and monitoring program to track progress toward the reduction target and the status of the reduction strategies. A CAP consistency checklist for future development projects is included in the implementation program.

City of San Mateo CAP Consistency Checklist

As part of the CAP, the City developed a CAP consistency checklist for land use projects. The checklist is a streamlined tool that identifies the CAP's mandatory requirements and provides an opportunity for project applicants to demonstrate project consistency with GHG reduction measures and actions in the CAP. The checklist is also an opportunity to identify additional project characteristics that support the GHG reduction targets and programs in the CAP.

2.3 Greenhouse Gas Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

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

BAAQMD Thresholds

The assessment of GHG emissions below is based on guidance from the BAAQMD. The BAAQMD CEQA Guidelines include guidance on assessing GHGs and climate change impacts as required under CEQA Section 15183.5(b) and establish thresholds of significance for impacts related to GHG

emissions. The City of San Mateo has determined, in its discretion, that the guidelines are based on substantial evidence to "attribute an appropriate share of greenhouse gas emission reductions necessary to reach AB 32 goals to new land use development projects in the BAAQMD's jurisdiction that are evaluated pursuant to CEQA" (BAAQMD 2017a). Therefore, the City is using the BAAQMD CEQA Guidelines to determine the level of impact from the project's contribution of GHG emissions.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions; however, the air district recommends the quantification and disclosure of construction-generated GHG emissions.

The BAAQMD project-level operational threshold of significance for GHG emissions is the project generation of 1,100 metric tons of CO_2e per year during operations (bright-line numeric threshold); **or** the project generation of 4.6 metric tons of CO_2e per service population (employees + patrons + residents) per year during operations (efficiency-based threshold); **or** compliance with a Qualified GHG Reduction Strategy. For the purposes of this assessment, the Project is evaluated for compliance with the City of San Mateo CAP, as well as the BAAQMD bright-line numeric threshold of 1,100 metric tons of CO_2e per year during operations.

As previously described, statewide goals for GHG reductions in the years beyond 2020 have been recently codified into state law with the passage of SB 32. The California Cap-and-Trade Program is the centerpiece of the current Scoping Plan as it allows the state to put a firm limit on overall carbon emissions. Under Cap-and-Trade, an overall limit on GHG emissions from capped sectors is established and facilities subject to the cap would be able to trade permits to emit GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. The program also covers fuel suppliers (natural gas and propane fuel providers as well as transportation fuel providers). Accordingly, GHG emissions associated with the Project's electricity and natural gas usage are covered by the Cap-and-Trade Program, as are GHG emission associated with the combustion of transportation fuels in the state, whether refined in-state or imported. Therefore, while Project design can contribute to reducing potential GHG emissions from the proposed Project, achievement of future GHG efficiency standards is also dependent, and primarily driven, on regulatory controls applied to all sectors of the California economy. Thus, the ability of this Project—and all land use development—to achieve GHG reduction goals beyond 2020 is partially out of the control of the Project and its proponents, and is being addressed by the State of California.

Nonetheless, even though the San Mateo CAP was drafted before SB 32, the CAP addresses estimate emissions beyond 2020 as informed by the post-2020 GHG reduction targets of Executive Order S-3-05. Specifically, the City set an additional goal of a 35 percent reduction from 2005 levels by 2030. Therefore, Project compliance with the CAP adequately establishes Project compliance not only with statewide GHG reduction goals for the year 2020 associated with AB 32, but also with statewide GHG reduction goals for the years beyond 2020.

Additionally, the Project is compared to ABAG's Plan Bay Area, the RTP/SCS for the San Francisco Bay Area, which establishes an overall GHG target for the project region consistent with both the target date of AB 32 (2020) and the post-2020 GHG reduction goals of SB 32. The Project is also compared to the BAAQMD 2017 Clean Air Plan, which defines a vision for transitioning the region to

a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those greenhouse gas emissions reduction targets (BAAQMD 2017b).

2.3.2 Methodology

GHG impacts were assessed in accordance with methodologies recommended by CARB and the BAAQMD. Where quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults. Operational air pollutant emissions were based on the Project site plans and the estimated traffic trip generation rates from Hexagon Transportation Consultants (2018). For the purposes of this analysis, projected emissions associated with proposed operations are compared to the existing baseline, which includes an existing 164,709 square foot office park.

2.3.3 Impacts Analysis

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

City of San Mateo Climate Action Plan

The San Mateo CAP (2015) is a strategic planning document that identifies sources of GHG emissions within the city's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic programs, policies, and projects to reduce emissions from the energy, transportation, land use, water use, and waste sectors. The GHG reduction programs, policies, projects, and strategies are referred to as "reduction measures" in the CAP. The emissions reduction program developed by the City follows the BAAQMD's CEQA Guidelines (2017) and the corresponding criteria for a Qualified Greenhouse Gas Emissions Reduction Program as defined by the BAAQMD, which in turn were developed to comply with the requirements of AB 32 and achieve the goals of the AB 32 Scoping Plan. A Qualified Greenhouse Gas Emissions Reduction Program adopted by a local jurisdiction should include the elements below, as described in CEQA Guidelines Section 15183.5. The BAAQMD's CEQA Guidelines outline the methodology to determine whether a GHG reduction program meets these requirements.

- Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.
- Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.
- Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area.

- Specify measures or a group of measures, including performance standards, which substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.
- Be adopted in a public process following environmental review.

The City's CAP meets BAAQMD guidelines as follows:

- The CAP quantifies citywide GHG emissions, both existing and projected over the specified time period, resulting from activities in San Mateo as defined by the City's General Plan.
- The CAP establishes a level, based on substantial evidence, below which the contribution of emissions from activities covered by the plan would not be cumulatively considerable.
- CAP policy provisions reduce emissions to 15 percent below 2005 levels by 2020.
- CAP policy provisions reduce emissions to 35 percent below 2005 levels by 2030.
- CAP policy provisions provide a foundation for the City to reach the goal of reducing emissions to 80 percent below 1990 levels by 2050.
- The CAP identifies and analyzes the emissions resulting from specific actions or categories of actions anticipated within the city.
- The CAP specifies measures or a group of measures, including performance standards.
- The CAP establishes a mechanism to monitor its progress toward achieving the level and to require amendment if the plan is not achieving specific levels.

The reduction measures proposed in the CAP build on inventory results and key opportunities prioritized by City staff, members of the San Mateo Sustainability Commission, and members of the public. The CAP strategies consist of measures and actions that identify the steps the City will take to support reductions in GHG emissions. The City will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. All standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

Both the existing and the projected GHG inventories in the CAP were derived based on the land use designations and associated densities defined in the City's General Plan (2010). As previously described, the Project proposes a General Plan Amendment from the site's existing designation of Executive Office, to Medium Density Multi-Family; as well as a Zoning Reclassification from E1 to R-3. Despite this proposed change in the Project site's land use designation, the Project is consistent with the GHG inventory and forecast in the CAP. This is because the proposed Project would generate *less* GHG emissions than currently generated onsite (see **Table 2-3** below). The primary reason for this reduction in GHG emissions with implementation of the proposed Project is the projected reduction of automobile trips compared with the existing condition. According to the traffic analysis prepared for the Project, the Project would result in 160 *less* automobile trips daily

compared with the existing land use on the site. Therefore, despite the fact that the Project proposes to change the existing land use designation of the Project site, the Project would result in a reduction of GHG emissions compared to existing conditions; and since the proposed General Plan Amendment would not result in an increase of GHG emissions beyond that considered in the City CAP, the Project is consistent with the GHG inventory and forecast in the CAP.

In addition, a specific Project proposal is considered consistent with the San Mateo CAP if it complies with the "required" GHG reduction measures in the adopted CAP. The required GHG reduction measures applicable to the proposed Project include the following:

- *Reduction Measure RE 3: Renewable energy systems for new residential buildings*. Section 23.24.030 of the San Mateo Municipal Code requires new single- and multi-family residential projects containing 17 or more units to provide a minimum of a 3-kilowatt photovoltaic system. The Project is proposing 250 square feet of roof-top solar panels per each single-family unit for a total of 7,000 square feet of solar panels.

- *Reduction Measure AF 2: Provide pre-wiring for EV charging stations inside all garages*. The Project will be required to provide pre-wiring in all Project garages for EV charging stations. The encouragement of electric vehicles and clean air vehicles through the provision of charging facilities could lead to reduced use of gasoline-burning automobiles and thus, less GHG emissions.

- *Reduction Measure AT 2: Implement transportation demand management strategies to comply with the appropriate trip reduction target identified by the City of San Mateo*. Transportation Demand Management (TDM) is a combination of services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollutants, including GHG emissions. The purpose of TDM is to promote more efficient utilization of existing transportation facilities, and to ensure that new developments are designed to maximize the potential for sustainable transportation usage. A TDM Plan has been prepared for the proposed Project. The Project TDM Plan includes trip reduction strategies with the goal of reducing overall vehicular trip making activity in the Project area, and it is expected that the Project would meet it trip reduction target. The traffic analysis prepared for the Project indicates that the proposed change in land use from the existing office use to residential would reduce average daily vehicle trips to and from the Project site by approximately 160 trips. The site is a stop on multiple, free SamTrans routes and is also served by a free a shuttle service that connects to both the Hayward Park and Hillsdale Caltrain stations located on the west side of Highway 101. The Project is located within walking distance (0.3 mile), and connected with pedestrian sidewalks, to restaurants, retail stores, and other services on South Norfolk Street. These services are conveniently located for future residents of the proposed Project to access via walking, which will reduce the number of vehicle trips resulting in corresponding reductions in transportation-related GHG emissions.

- *Reduction Measure SW 1: Provide an area of sufficient space to store and allow access to a compost bin and/or participate in a composting program*. The Project is proposing

composting/mulching bins on-site. Furthermore, the Project is proposing to participate in a composting program with the Recology integrated resource recovery company.

All development in San Mateo, including the Project, is required to adhere to all City-adopted policy provisions, including those contained in the adopted CAP. The Project applicant has completed a checklist to confirm consistency with the CAP (see **Attachment B**). The City ensures all provisions of the San Mateo CAP are incorporated into projects and their permits through development review and applications of conditions of approval as applicable.

Bay Area Air Quality Management Plan 2017 Clean Air Plan

As previously described, the 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. The 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG emissions reduction targets. The 2017 Clean Air Plan includes a wide range of control measures designed to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The 2017 Clean Air Plan includes a diverse range of control measures designed to decrease GHG emissions. Consistency of the proposed Project with 2017 Clean Air Plan is demonstrated by assessing whether the Project supports all of the Project-applicable Clean Air Plan control measures for GHG emissions. The control strategies of the Clean Air Plan include *Stationary Source Measures*, *Mobile Source Measures*, and *Transportation Control Measures*. The 2017 Clean Air Plan also identifies two additional subcategories of control measures, which are *Land Use and Local Impact Measure*s, which address the exposure of sensitive receptors to toxic air contaminants and is thereby not applicable to this impact discussion of GHG emissions, and *Energy and Climate Measures*, which address GHG emissions.

Stationary Source Measures in the Clean Air Plan such as those implemented to control emissions from metal melting facilities, cement kilns, refineries, and glass furnaces are not applicable to the proposed Project. Therefore, consistency with the Clean Air Plan *Stationary Source Measures* is not evaluated further.

Transportation and Mobile Source Control Measures

The BAAQMD identifies transportation and mobile source control measures as part of the Clean Air Plan to reduce ozone precursor emissions from these sources. The transportation control measures are designed to reduce emissions from motor vehicles by reducing vehicle trips and vehicle miles traveled (VMT) in addition to vehicle idling and traffic congestion. The proposed Project is consistent with the Clean Air Plan's transportation and mobile source control measures in that it is the redevelopment of an existing urban environment. The Project is considered 'infill development' as it proposes to redevelop a built-out property and enhance the physical design of the urban environment. Under Public Resources Code (PRC) section 21061.3, an "infill site" is defined as a site that "has been previously developed for qualified urban uses." In turn, a "qualified urban use" is defined, pursuant to PRC section 21072, as "any residential, commercial, or public institutional,

transit or transportation passenger facility, or retail use, or any combination of those uses." Additionally, the Project site is located in an "urbanized area," which is defined under PRC section 21071 as "an incorporate city" that meets the criteria of having a population of at least 100,000 persons. These aspects of the Project would result in the generation of a reduced amount of air pollutants. According to the EPA, redevelopments produce 32 to 57 percent less air pollutant emissions per capita relative to conventional developments; this is because the number of daily vehicle trips and daily VMT associated with redevelopments tend to be lower compared with development on vacant land (EPA 2011).

The proposed Project would provide a convenient proximity to transit options and retail uses for its residents. For instance, the Project site is a stop on multiple, free SamTrans routes and is also served by a free a shuttle service that connects to both the Hayward Park and Hillsdale Caltrain stations located on the west side of Highway 101. The Project is located within walking distance (0.3 mile), and connected with pedestrian sidewalks, to restaurants, retail stores, and other services on South Norfolk Street. The Project would also provide 283 bicycle parking spaces to encourage utilization of alternative modes of transportation. The increased transit accessibility would reduce vehicle trips and VMT versus the statewide average and encourage walking and non-automotive forms of transportation and would result in corresponding reductions in transportation-related GHG emissions.

As a result, the proposed Project would not conflict with the identified transportation and mobile source control measures of the Clean Air Plan.

Energy and Climate Control Measures

The Clean Air Plan also includes Energy and Climate Control Measures, which are designed to reduce GHG emissions. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production, reduce the "urban heat island" effect by increasing reflectivity of roofs and parking lots, and promote the planting of (low-VOC-emitting) trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants. The measures include voluntary approaches to reduce the heat island effect by increasing shading in urban and suburban areas through the planting of trees. The proposed Project would include more than 280 trees, which would help reduce the heating effect. In addition, the proposed Project proposes the installation of at least a 3 kilowatt solar energy generation system in compliance with the San Mateo Municipal Code. Furthermore, the proposed building would be built to 2016 Title 24 Building Energy Efficiency Standards. The 2016 Building Energy Efficiency Standards are 28 percent more efficient than previous 2013 Standards for residential construction. The 2013 Standards were 25 percent more efficient than the 2010 Standards. Energy-efficient buildings require less electricity, and increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. Therefore, the proposed Project would not conflict with the BAAQMD Energy and Climate Control Measures.

For these reasons, the proposed Project would conform to the Project-applicable control measures in the Clean Air Plan.

Association of Bay Area Governments Final Plan Bay Area 2040

ABAG's Plan Bay Area is the RTP/SCS for the San Francisco Bay Area. Plan Bay Area establishes GHG emissions goals for automobiles and light-duty trucks, a potent source of GHG emissions attributable to land use development. As previously described, ABAG was tasked by CARB to achieve a 7 percent per capita reduction in mobile-source GHG emissions compared to 2005 vehicle emissions by 2020 and a 15 percent per capita reduction by 2035. Plan Bay Area 2013-2040 establishes an overall mechanism to achieve these GHG targets for the project region consistent with both the target date of AB 32 (2020) and the post-2020 GHG reduction goals of SB 32. CARB has confirmed the Project region will achieve its GHG reduction targets by implementing Plan Bay Area (CARB 2014). The RTP/SCS contains thousands of individual transportation projects, including highway improvements, railway electrification, bicycle lanes, new transit hubs, and replacement bridges. These future investments seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently.

Plan Bay Area 2040's core strategy is "focused growth" in existing communities along the existing transportation network. This strategy allows the best "bang for the buck" in achieving key regional economic, environmental and equity goals: It builds upon existing community characteristics, efficiently leverages existing infrastructure and mitigates impacts on areas with less development. The RTP/SCS identifies 200 "Priority Development Areas" which are areas focused for growth and development. Priority Development Areas are defined by the RTP/SCS as existing neighborhoods that are served by public transit and have been identified as appropriate for additional, compact development.

The Project site is located in an area identified as an Urbanized Area in the RTP/SCS. Since the Project site is an Urbanized Area in the RTP/SCS planning period as opposed to "Priority Conservation Area," it is included in an area where infill redevelopment, such as proposed by the Project, is both predicted and encouraged by ABAG (ABAG 2017, Map 4.5). Furthermore, the Project is a modernization of land uses within a built environment (infill development), resulting in an increase of land use densification on the Project site. The Project will increase density in the vicinity over current conditions. Increased density, measured in terms of persons, jobs, or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services. The Project would increase the site density to 17.1 dwelling units per acre.

For these reasons, the Project is consistent with Plan Bay Area and it can be assumed that regional mobile emissions will decrease in line with the goals of Plan Bay Area with implementation of the proposed Project. Implementing ABAG's RTP/SCS will greatly reduce the regional GHG emissions from transportation, and the proposed Project will not obstruct the achievement of Plan Bay Area's emission reduction targets.

Contribution of Greenhouse Gas Emissions

Construction

Construction-related activities that would generate GHGs include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). GHG emissions would also be generated during demolition of the existing 164,709 square foot office park. **Table 2-2** illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

Table 2-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
First Year Construction (2019 - includes demolition)	683
Second Year Construction (2020)	1,073
Combined Construction Emissions	1,756

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.
Notes: Building construction, paving, and architectural coating assumed to occur simultaneously. Construction emissions conservatively account for an earlier construction schedule and thus, less modern/efficient construction equipment.

As shown in **Table 2-2**, Project construction (including demolition activities) would result in the generation of approximately 1,756 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the EPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the EPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the EPA signed the final rule introducing Tier 4 emission standards, which are currently phased-in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later will be manufactured to Tier 4 standards.

In addition, the California Energy Commission recently adopted changes to the 2016 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code). The 2016 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. For instance, effective January 1, 2017, owners/builder of construction projects have been required to divert (recycle) 65 percent of generated construction waste materials generated during the project. This requirement greatly reduces the generation of

GHG emissions by reducing decomposition at landfills, which is a source of CH_4, and reducing demand for natural resources.

Operations

Operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Projected GHG emissions associated with proposed operations are quantified and compared to the existing baseline, which as previously stated includes a 164,709-square foot office park. **Table 2-3** summarizes all the direct and indirect annual GHG emissions level associated with the Project.

Table 2-3. Operational-Related Greenhouse Gas Emissions

Emissions Source	CO_2e
Proposed Project 190 Residences (434,419 square feet), Parking Garage (380 spaces), Parking Lot (45 spaces)	
Area Source (landscaping, hearth)	18
Energy	817
Mobile	1,783
Waste	54
Water	44
Total	2,716
Existing 164,709 Square Foot Office Park	
Area Source (landscaping, hearth)	0
Energy	793
Mobile	2,156
Waste	77
Water	104
Total	3,131
Difference	
Area Source (landscaping, hearth)	+18
Energy	+24
Mobile	-373
Waste	-23
Water	-60
Total	-415

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

Notes: Emissions projections account for a trip generation rate identified by Hexagon Transportation Consultants 2018. Project emissions account for adherence to the 2016 California Title 24 Building Energy Efficiency Standards and a 3-kilowatt solar system; Existing Baseline emissions do not.

As shown in **Table 2-3**, the decrease in operational GHG emissions over the existing baseline would be 415 metric tons of CO_2e per year. Therefore, the proposed Project would not surpass the BAAQMD bright-line numeric significance threshold of 1,100 metric tons of CO_2e annually. Indeed, the Project would decrease the amount of GHG currently generated under existing conditions. Such a reduction will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions under AB 32.

3.0 REFERENCES

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ATTACHMENTS

Attachment A – CalEEMod Output File for Greenhouse Gas Emissions

Waters Park Residential (Proposed Project)

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	380.00	Space	1.65	152,000.00	0
Parking Lot	45.00	Space	0.21	18,000.00	0
Condo/Townhouse	162.00	Dwelling Unit	4.87	359,246.00	463
Single Family Housing	28.00	Dwelling Unit	4.37	75,173.00	80

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Waters Park Residential (Proposed Project) - San Mateo County, Annual

Project Characteristics -

Land Use - Square footage adjusted per Planning Development Application.

Construction Phase - Construction, paving, and painting assumed to occur simultaneously.

Trips and VMT - Adjusted worker trips per TIA from other projects in San Mateo.

Demolition -

Vehicle Trips - Adjusted trip length per TIA from similar projects in San Mateo. Adusted trip rate per TIA.

Mobile Land Use Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	NumDays	20.00	300.00
tblConstructionPhase	PhaseEndDate	12/12/2019	10/17/2019
tblConstructionPhase	PhaseEndDate	11/14/2019	10/17/2019
tblConstructionPhase	PhaseStartDate	11/15/2019	8/24/2018
tblConstructionPhase	PhaseStartDate	10/18/2019	8/24/2018
tblLandUse	LandUseSquareFeet	162,000.00	359,246.00
tblLandUse	LandUseSquareFeet	50,400.00	75,173.00
tblLandUse	LotAcreage	3.42	1.65
tblLandUse	LotAcreage	0.41	0.21
tblLandUse	LotAcreage	10.13	4.87
tblLandUse	LotAcreage	9.09	4.37
tblTripsAndVMT	WorkerTripLength	10.80	27.90
tblTripsAndVMT	WorkerTripLength	10.80	27.90
tblTripsAndVMT	WorkerTripLength	10.80	27.90
tblTripsAndVMT	WorkerTripLength	10.80	27.90
tblTripsAndVMT	WorkerTripLength	10.80	27.90

tblTripsAndVMT	WorkerTripLength	10.80	27.90
tblVehicleTrips	HO_TL	5.70	14.70
tblVehicleTrips	HO_TL	5.70	14.70
tblVehicleTrips	HS_TL	4.80	14.70
tblVehicleTrips	HS_TL	4.80	14.70
tblVehicleTrips	HW_TL	10.80	14.70
tblVehicleTrips	HW_TL	10.80	14.70
tblVehicleTrips	ST_TR	5.67	5.44
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	SU_TR	4.84	5.44
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	679.9201	679.9201	0.1152	0.0000	682.8009
2019											0.0000	1,069.3450	1,069.3450	0.1500	0.0000	1,073.0940
Maximum											**0.0000**	**1,069.3450**	**1,069.3450**	**0.1500**	**0.0000**	**1,073.0940**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	679.9197	679.9197	0.1152	0.0000	682.8005
2019											0.0000	1,069.3444	1,069.3444	0.1500	0.0000	1,073.0934
Maximum											**0.0000**	**1,069.3444**	**1,069.3444**	**0.1500**	**0.0000**	**1,073.0934**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											10.9446	6.2195	17.1642	0.0209	6.9000e-004	17.8907
Energy											0.0000	812.8871	812.8871	0.0300	9.9400e-003	816.5978
Mobile											0.0000	2,023.9442	2,023.9442	0.0709	0.0000	2,025.7165
Waste											21.9474	0.0000	21.9474	1.2971	0.0000	54.3737
Water											3.9274	27.4328	31.3601	0.4046	9.7800e-003	44.3904
Total											**36.8194**	**2,870.4836**	**2,907.3030**	**1.8234**	**0.0204**	**2,958.9691**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											10.9446	6.2195	17.1642	0.0209	6.9000e-004	17.8907
Energy											0.0000	812.8862	812.8862	0.0300	9.9400e-003	816.5969
Mobile											0.0000	1,781.4814	1,781.4814	0.0630	0.0000	1,783.0558
Waste											21.9474	0.0000	21.9474	1.2971	0.0000	54.3737
Water											3.9274	27.4328	31.3601	0.4046	9.7800e-003	44.3904
Total											**36.8194**	**2,628.0199**	**2,664.8393**	**1.8155**	**0.0204**	**2,716.3075**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**8.45**	**8.34**	**0.43**	**0.00**	**8.20**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2018	6/28/2018	5	20	
2	Site Preparation	Site Preparation	6/29/2018	7/12/2018	5	10	
3	Grading	Grading	7/13/2018	8/23/2018	5	30	
4	Building Construction	Building Construction	8/24/2018	10/17/2019	5	300	
5	Paving	Paving	8/24/2018	10/17/2019	5	300	
6	Architectural Coating	Architectural Coating	8/24/2018	10/17/2019	5	300	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.86

Residential Indoor: 879,698; Residential Outdoor: 293,233; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 10,200 (Architectural Coating – sqft)

OffRoad Equipment

Waters Park Residential (Proposed Project) - San Mateo County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,165.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	198.00	48.00	0.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	27.90	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	35.1241	35.1241	9.6800e-003	0.0000	35.3660
Total											**0.0000**	**35.1241**	**35.1241**	**9.6800e-003**	**0.0000**	**35.3660**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	50.0682	50.0682	5.9600e-003	0.0000	50.2171
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	2.6586	2.6586	6.0000e-005	0.0000	2.6600
Total											**0.0000**	**52.7268**	**52.7268**	**6.0200e-003**	**0.0000**	**52.8771**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	35.1240	35.1240	9.6800e-003	0.0000	35.3660
Total											**0.0000**	**35.1240**	**35.1240**	**9.6800e-003**	**0.0000**	**35.3660**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	50.0682	50.0682	5.9600e-003	0.0000	50.2171
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	2.6586	2.6586	6.0000e-005	0.0000	2.6600
Total											**0.0000**	**52.7268**	**52.7268**	**6.0200e-003**	**0.0000**	**52.8771**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total											**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.5951	1.5951	3.0000e-005	0.0000	1.5960
Total											**0.0000**	**1.5951**	**1.5951**	**3.0000e-005**	**0.0000**	**1.5960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total											**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.5951	1.5951	3.0000e-005	0.0000	1.5960
Total											**0.0000**	**1.5951**	**1.5951**	**3.0000e-005**	**0.0000**	**1.5960**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	84.9728	84.9728	0.0265	0.0000	85.6341
Total											**0.0000**	**84.9728**	**84.9728**	**0.0265**	**0.0000**	**85.6341**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	5.3171	5.3171	1.2000e-004	0.0000	5.3200
Total											**0.0000**	**5.3171**	**5.3171**	**1.2000e-004**	**0.0000**	**5.3200**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	84.9727	84.9727	0.0265	0.0000	85.6340
Total											**0.0000**	**84.9727**	**84.9727**	**0.0265**	**0.0000**	**85.6340**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	5.3171	5.3171	1.2000e-004	0.0000	5.3200
Total											**0.0000**	**5.3171**	**5.3171**	**1.2000e-004**	**0.0000**	**5.3200**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	109.3729	109.3729	0.0268	0.0000	110.0428
Total											**0.0000**	**109.3729**	**109.3729**	**0.0268**	**0.0000**	**110.0428**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	59.6843	59.6843	5.3100e-003	0.0000	59.8171
Worker											0.0000	161.4276	161.4276	3.5200e-003	0.0000	161.5156
Total											**0.0000**	**221.1119**	**221.1119**	**8.8300e-003**	**0.0000**	**221.3327**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	109.3728	109.3728	0.0268	0.0000	110.0427
Total											**0.0000**	**109.3728**	**109.3728**	**0.0268**	**0.0000**	**110.0427**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	59.6843	59.6843	5.3100e-003	0.0000	59.8171
Worker											0.0000	161.4276	161.4276	3.5200e-003	0.0000	161.5156
Total											**0.0000**	**221.1119**	**221.1119**	**8.8300e-003**	**0.0000**	**221.3327**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	244.5084	244.5084	0.0596	0.0000	245.9975
Total											**0.0000**	**244.5084**	**244.5084**	**0.0596**	**0.0000**	**245.9975**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	133.5384	133.5384	0.0118	0.0000	133.8332
Worker											0.0000	353.5845	353.5845	7.0300e-003	0.0000	353.7604
Total											**0.0000**	**487.1230**	**487.1230**	**0.0188**	**0.0000**	**487.5936**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	244.5081	244.5081	0.0596	0.0000	245.9972
Total											**0.0000**	**244.5081**	**244.5081**	**0.0596**	**0.0000**	**245.9972**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	133.5384	133.5384	0.0118	0.0000	133.8332
Worker											0.0000	353.5845	353.5845	7.0300e-003	0.0000	353.7604
Total											**0.0000**	**487.1230**	**487.1230**	**0.0188**	**0.0000**	**487.5936**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	95.7335	95.7335	0.0298	0.0000	96.4785
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**95.7335**	**95.7335**	**0.0298**	**0.0000**	**96.4785**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	12.2294	12.2294	2.7000e-004	0.0000	12.2360
Total											**0.0000**	**12.2294**	**12.2294**	**2.7000e-004**	**0.0000**	**12.2360**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	95.7334	95.7334	0.0298	0.0000	96.4784
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**95.7334**	**95.7334**	**0.0298**	**0.0000**	**96.4784**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	12.2294	12.2294	2.7000e-004	0.0000	12.2360
Total											**0.0000**	**12.2294**	**12.2294**	**2.7000e-004**	**0.0000**	**12.2360**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	212.9419	212.9419	0.0674	0.0000	214.6262
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**212.9419**	**212.9419**	**0.0674**	**0.0000**	**214.6262**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	26.7867	26.7867	5.3000e-004	0.0000	26.8000
Total											**0.0000**	**26.7867**	**26.7867**	**5.3000e-004**	**0.0000**	**26.8000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	212.9416	212.9416	0.0674	0.0000	214.6260
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**212.9416**	**212.9416**	**0.0674**	**0.0000**	**214.6260**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	26.7867	26.7867	5.3000e-004	0.0000	26.8000
Total											**0.0000**	**26.7867**	**26.7867**	**5.3000e-004**	**0.0000**	**26.8000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7729
Total											**0.0000**	**11.7450**	**11.7450**	**1.1200e-003**	**0.0000**	**11.7729**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	32.6116	32.6116	7.1000e-004	0.0000	32.6294
Total											**0.0000**	**32.6116**	**32.6116**	**7.1000e-004**	**0.0000**	**32.6294**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	11.7450	11.7450	1.1200e-003	0.0000	11.7729
Total											**0.0000**	**11.7450**	**11.7450**	**1.1200e-003**	**0.0000**	**11.7729**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	32.6116	32.6116	7.1000e-004	0.0000	32.6294
Total											**0.0000**	**32.6116**	**32.6116**	**7.1000e-004**	**0.0000**	**32.6294**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	26.5538	26.5538	2.2400e-003	0.0000	26.6099
Total											**0.0000**	**26.5538**	**26.5538**	**2.2400e-003**	**0.0000**	**26.6099**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	71.4312	71.4312	1.4200e-003	0.0000	71.4668
Total											**0.0000**	**71.4312**	**71.4312**	**1.4200e-003**	**0.0000**	**71.4668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	26.5538	26.5538	2.2400e-003	0.0000	26.6099
Total											**0.0000**	**26.5538**	**26.5538**	**2.2400e-003**	**0.0000**	**26.6099**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	71.4312	71.4312	1.4200e-003	0.0000	71.4668
Total											**0.0000**	**71.4312**	**71.4312**	**1.4200e-003**	**0.0000**	**71.4668**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,781.4814	1,781.4814	0.0630	0.0000	1,783.0558
Unmitigated											0.0000	2,023.9442	2,023.9442	0.0709	0.0000	2,025.7165

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	881.28	881.28	881.28	4,186,016	3,674,462
Enclosed Parking Structure	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	264.32	264.32	264.32	1,255,501	1,102,072
Total	1,145.60	1,145.60	1,145.60	5,441,516	4,776,534

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	14.70	14.70	14.70	31.00	15.00	54.00	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	14.70	14.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Enclosed Parking Structure	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Parking Lot	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Single Family Housing	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	553.2405	553.2405	0.0250	5.1800e-003	555.4083
Electricity Unmitigated											0.0000	553.2414	553.2414	0.0250	5.1800e-003	555.4092
NaturalGas Mitigated											0.0000	259.6457	259.6457	4.9800e-003	4.7600e-003	261.1886
NaturalGas Unmitigated											0.0000	259.6457	259.6457	4.9800e-003	4.7600e-003	261.1886

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.68051e+006											0.0000	196.4061	196.4061	3.7600e-003	3.6000e-003	197.5732
Enclosed Parking Structure	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.18507e+006											0.0000	63.2396	63.2396	1.2100e-003	1.1600e-003	63.6154
Total												**0.0000**	**259.6457**	**259.6457**	**4.9700e-003**	**4.7600e-003**	**261.1886**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.68051e+006											0.0000	196.4061	196.4061	3.7600e-003	3.6000e-003	197.5732
Enclosed Parking Structure	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.18507e+006											0.0000	63.2396	63.2396	1.2100e-003	1.1600e-003	63.6154
Total												**0.0000**	**259.6457**	**259.6457**	**4.9700e-003**	**4.7600e-003**	**261.1886**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	810102	235.6680	0.0107	2.2000e-003	236.5914
Enclosed Parking Structure	861840	250.7191	0.0113	2.3500e-003	251.7015
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Single Family Housing	223510	65.0215	2.9400e-003	6.1000e-004	65.2763
Total		**553.2414**	**0.0250**	**5.1800e-003**	**555.4092**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	810101	235.6678	0.0107	2.2000e-003	236.5912
Enclosed Parking Structure	861839	250.7189	0.0113	2.3500e-003	251.7013
Parking Lot	6299.25	1.8325	8.0000e-005	2.0000e-005	1.8397
Single Family Housing	223509	65.0213	2.9400e-003	6.1000e-004	65.2761
Total		**553.2405**	**0.0250**	**5.1800e-003**	**555.4083**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											10.9446	6.2195	17.1642	0.0209	6.9000e-004	17.8907
Unmitigated											10.9446	6.2195	17.1642	0.0209	6.9000e-004	17.8907

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											10.9446	3.9075	14.8521	0.0186	6.9000e-004	15.5219
Landscaping											0.0000	2.3121	2.3121	2.2700e-003	0.0000	2.3688
Total											**10.9446**	**6.2195**	**17.1642**	**0.0209**	**6.9000e-004**	**17.8907**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											10.9446	3.9075	14.8521	0.0186	6.9000e-004	15.5219
Landscaping											0.0000	2.3121	2.3121	2.2700e-003	0.0000	2.3688
Total											**10.9446**	**6.2195**	**17.1642**	**0.0209**	**6.9000e-004**	**17.8907**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.3601	0.4046	9.7800e-003	44.3904
Unmitigated	31.3601	0.4046	9.7800e-003	44.3904

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	10.555 / 6.65421	26.7386	0.3450	8.3400e-003	37.8487
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.5418
Total		**31.3601**	**0.4046**	**9.7800e-003**	**44.3904**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	10.555 / 6.65421	26.7386	0.3450	8.3400e-003	37.8487
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.82431 / 1.15011	4.6215	0.0596	1.4400e-003	6.5418
Total		**31.3601**	**0.4046**	**9.7800e-003**	**44.3904**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.9474	1.2971	0.0000	54.3737
Unmitigated	21.9474	1.2971	0.0000	54.3737

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	74.52	15.1269	0.8940	0.0000	37.4762
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	33.6	6.8205	0.4031	0.0000	16.8975
Total		**21.9474**	**1.2971**	**0.0000**	**54.3737**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	74.52	15.1269	0.8940	0.0000	37.4762
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	33.6	6.8205	0.4031	0.0000	16.8975
Total		**21.9474**	**1.2971**	**0.0000**	**54.3737**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Waters Park Residential (Existing)

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	164.71	1000sqft	4.53	164,709.00	0
Parking Lot	609.00	Space	6.57	243,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Adjusted acreage per Project Application.

Construction Phase - No construction in this model.

Vehicle Trips - Adjusted rate per TIA. Adjusted trip length per similar projects in San Mateo.

Energy Use - Historical data used for existing conditions.

Mobile Land Use Mitigation -

Waters Park Residential (Existing) - San Mateo County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.21	3.47
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	T24E	5.65	4.27
tblEnergyUse	T24NG	21.48	17.44
tblLandUse	LotAcreage	3.78	4.53
tblLandUse	LotAcreage	5.48	6.57
tblVehicleTrips	CC_TL	7.30	14.70
tblVehicleTrips	CNW_TL	7.30	14.70
tblVehicleTrips	CW_TL	9.50	14.70
tblVehicleTrips	ST_TR	1.64	7.92
tblVehicleTrips	SU_TR	0.76	7.92
tblVehicleTrips	WD_TR	11.42	7.92

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	18.0089	18.0089	5.4300e-003	0.0000	18.1445
Maximum											**0.0000**	**18.0089**	**18.0089**	**5.4300e-003**	**0.0000**	**18.1445**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	18.0088	18.0088	5.4300e-003	0.0000	18.1445
Maximum											**0.0000**	**18.0088**	**18.0088**	**5.4300e-003**	**0.0000**	**18.1445**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Waters Park Residential (Existing) - San Mateo County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148
Energy											0.0000	789.7182	789.7182	0.0315	8.8600e-003	793.1437
Mobile											0.0000	2,229.1589	2,229.1589	0.0783	0.0000	2,231.1154
Waste											31.0942	0.0000	31.0942	1.8376	0.0000	77.0345
Water											9.2875	64.3505	73.6380	0.9568	0.0231	104.4500
Total											**40.3816**	**3,083.2414**	**3,123.6230**	**2.9042**	**0.0320**	**3,205.7583**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148
Energy											0.0000	789.7182	789.7182	0.0315	8.8600e-003	793.1437
Mobile											0.0000	2,154.5410	2,154.5410	0.0758	0.0000	2,156.4367
Waste											31.0942	0.0000	31.0942	1.8376	0.0000	77.0345
Water											9.2875	64.3505	73.6380	0.9568	0.0231	104.4500
Total											**40.3816**	**3,008.6235**	**3,049.0051**	**2.9018**	**0.0320**	**3,131.0795**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.42**	**2.39**	**0.08**	**0.00**	**2.33**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/16/2018	5/29/2018	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 6.57

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total											**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.6289	0.6289	1.0000e-005	0.0000	0.6293
Total											**0.0000**	**0.6289**	**0.6289**	**1.0000e-005**	**0.0000**	**0.6293**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total											**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.6289	0.6289	1.0000e-005	0.0000	0.6293
Total											**0.0000**	**0.6289**	**0.6289**	**1.0000e-005**	**0.0000**	**0.6293**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	2,154.5410	2,154.5410	0.0758	0.0000	2,156.4367
Unmitigated											0.0000	2,229.1589	2,229.1589	0.0783	0.0000	2,231.1154

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Office Park	1,304.99	1,304.99	1304.99	5,989,122	5,784,474
Parking Lot	0.00	0.00	0.00		
Total	1,304.99	1,304.99	1,304.99	5,989,122	5,784,474

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Office Park	14.70	14.70	14.70	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Office Park	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741
Parking Lot	0.490452	0.049742	0.253638	0.136789	0.017926	0.006526	0.021436	0.006323	0.003943	0.003278	0.008771	0.000435	0.000741

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	626.1456	626.1456	0.0283	5.8600e-003	628.5990
Electricity Unmitigated											0.0000	626.1456	626.1456	0.0283	5.8600e-003	628.5990
NaturalGas Mitigated											0.0000	163.5726	163.5726	3.1400e-003	3.0000e-003	164.5446
NaturalGas Unmitigated											0.0000	163.5726	163.5726	3.1400e-003	3.0000e-003	164.5446

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Office Park	3.06523e+006											0.0000	163.5726	163.5726	3.1400e-003	3.0000e-003	164.5446
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												**0.0000**	**163.5726**	**163.5726**	**3.1400e-003**	**3.0000e-003**	**164.5446**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Office Park	3.06523e+006											0.0000	163.5726	163.5726	3.1400e-003	3.0000e-003	164.5446
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												**0.0000**	**163.5726**	**163.5726**	**3.1400e-003**	**3.0000e-003**	**164.5446**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Office Park	2.0671e+006	601.3425	0.0272	5.6300e-003	603.6987
Parking Lot	85260	24.8031	1.1200e-003	2.3000e-004	24.9003
Total		**626.1456**	**0.0283**	**5.8600e-003**	**628.5990**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Office Park	2.0671e+006	601.3425	0.0272	5.6300e-003	603.6987
Parking Lot	85260	24.8031	1.1200e-003	2.3000e-004	24.9003
Total		**626.1456**	**0.0283**	**5.8600e-003**	**628.5990**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148
Unmitigated											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148
Total											**0.0000**	**0.0138**	**0.0138**	**4.0000e-005**	**0.0000**	**0.0148**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.0138	0.0138	4.0000e-005	0.0000	0.0148
Total											**0.0000**	**0.0138**	**0.0138**	**4.0000e-005**	**0.0000**	**0.0148**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	73.6380	0.9568	0.0231	104.4500
Unmitigated	73.6380	0.9568	0.0231	104.4500

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Office Park	29.2745 / 17.9425	73.6380	0.9568	0.0231	104.4500
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**73.6380**	**0.9568**	**0.0231**	**104.4500**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Office Park	29.2745 / 17.9425	73.6380	0.9568	0.0231	104.4500
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**73.6380**	**0.9568**	**0.0231**	**104.4500**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	31.0942	1.8376	0.0000	77.0345
Unmitigated	31.0942	1.8376	0.0000	77.0345

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Office Park	153.18	31.0942	1.8376	0.0000	77.0345
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**31.0942**	**1.8376**	**0.0000**	**77.0345**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Office Park	153.18	31.0942	1.8376	0.0000	77.0345
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**31.0942**	**1.8376**	**0.0000**	**77.0345**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENTS

Attachment B – City of San Mateo Climate Action Plan Consistency Checklist

Appendix 3

CAP Consistency Checklist

The following checklist assists project applicants and City staff to determine whether a proposed project complies with the City of San Mateo Climate Action Plan (CAP). The CAP is an implementation tool of the General Plan, demonstrating the City's strategy to reduce greenhouse gas (GHG) emissions consistent with Section 15183.5 of the California Environmental Quality Act (CEQA) Guidelines. New projects deemed consistent with the CAP are eligible for streamlining the analysis of GHG emissions. Projects inconsistent with the CAP may refer to this checklist for informational purposes but may have to submit a separate GHG analysis for the project. Examples of projects inconsistent with the City's forecast include:

- Stationary source emissions regulated by the Bay Area Air Quality Management District.
- General Plan amendments.
- New specific plans, amendments to specific plans, or new development agreements that would increase the population and nonresidential land use expectations beyond those anticipated in the General Plan buildout scenario.

CAP Consistency Checklist

Development Checklist

Project Description Characteristics

Please identify the applicable land uses included in the proposed project and provide a brief description of the proposed project (or the project description to be used for the associated environmental document).

1) What is the size of the project (in acres)?

11.1 acres

2) Identify the applicable land uses:

- [x] Residential
- [ ] Commercial
- [ ] Industrial
- [ ] Manufacturing
- [ ] Other

3) If there is a residential component to the project, how many units are being proposed?

Single-family residences:	:	28
Multi-family residences:	:	162

4) Please provide a brief project description:

See attached

5) Does the project require any amendments to the General Plan or specific plans?

- [x] Yes
- [ ] No

If yes, please explain:

See attached

6) Is the project located in a specific plan area?

☐ Yes ☒ No

If so, which one? _____

7) Please complete the following table to identify project compliance with any applicable CAP measures.

Standards for CAP Consistency – New Development

Reduction Measure and Applicable Standard	Does the Project Comply?	Notes & Comments
RE 3. New single family houses and multifamily residential buildings: Meet the standards to be solar ready as defined by the California Building Standards Code	☒ Yes ☐ No ☐ N/A	If yes, what is the square footage of the solar zone? 250sf on roof of each SFD x 28 = 7000sf Additional notes:
RE 5. New nonresidential buildings: Meet the standards to be solar ready as defined by the California Building Standards Code	☐ Yes ☐ No ☒ N/A	If yes, what is the square footage of the solar zone? Additional notes:
AF 2. If off-street parking is provided, projects of at least six multi-family residential units and/or 10,000 square feet of nonresidential square footage at time of new construction or addition or alteration (as defined in San Mateo Municipal Code Section 23.06.012): Provide EV charging stations with designated parking spaces capable of meeting the California Green Building Code Voluntary Standards.	☐ Yes ☐ No ☐ N/A ☒ TBD.	If yes, how many EV charging stations are provided? Additional notes:
AF 2. New single-family houses and multi-family units with private attached garages or carports: Provide pre-wired for an EV charging station inside the garage or carport.	☒ Yes ☐ No ☐ N/A	If yes, how many spaces are prewired? 190 spaces – one per unit Additional notes:

CAP CONSISTENCY CHECKLIST

Reduction Measure and Applicable Standard	Does the Project Comply?	Notes & Comments
AT 2. New developments of at least six multi-family units and/or 10,000 square feet of nonresidential space: Implement TDM strategies to comply with the appropriate trip reduction target identified in applicable area plans and San Mateo Citywide TDM Plan. Pending feedback from Hexagon.	☒ Yes ☐ No ☐ N/A	If yes, what is the trip reduction target for the project? % short-term commute trip reduction % long-term commute trip reduction What strategies will the project use to achieve these trip reduction targets?
AT 2. Projects of at least 20 multi-family units and/or 50,000 square feet of nonresidential space undergoing additions or alterations (as defined in San Mateo Municipal Code Section 23.06.012): Implement TDM strategies consistent with the targets in relevant area plans and the San Mateo Citywide TDM Plan. Pending feedback from Hexagon.	☒ Yes ☐ No ☐ N/A	If yes, what is the trip reduction target for the project? % short-term commute trip reduction % long-term commute trip reduction What strategies will the project use to achieve these trip reduction targets?
SW 1. Commercial properties over 10,000 square feet and multi-family buildings of at least four units at time of construction or additions/alterations (as defined in San Mateo Municipal Code Section 23.06.012): Provide an area of sufficient space to store and allow access to a compost bin.	☒ Yes ☐ No ☐ N/A	Does the project participate in any composting programs? See trash management plan from American Trash Management. Does the project compost on-site?