4.4 OTHER RESOURCE TOPICS

4.4.1 INTRODUCTION

This section addresses all other environmental resource topics not evaluated in individual technical sections in this environmental impact report (EIR). This section is organized into two main subsections: **Subsection 4.4.2, Other Topics for Environmental Analysis** and **Subsection 4.4.3**, **Effects Found Not to be Significant**. **Subsection 4.4.2** presents resource topics that were determined in the Initial Study prepared for the proposed project to require further environmental analysis in order to determine the level of significance of project impacts. **Subsection 4.4.3** includes all environmental resource topics that were determined by the analysis in the Initial Study to either not be affected by the proposed project or for which it was clear that the environmental impacts would be less than significant.

As noted in **Section 1.0, Introduction**, the project as initially proposed included the construction of eight single-family homes. That project was evaluated in the Initial Study that accompanied the notice of preparation (NOP) for the EIR. Following the circulation of the NOP, the Applicant's residential project was modified to include three additional single-family homes located at the end of Cowpens Way and Cobblehill Place within the current project site and the County decided that a Resource Management District zoning text amendment would also be also addressed in this EIR. This section updates information from the published Initial Study to address the environmental impacts from three additional homes now included in the Applicant's proposed project. Based on the evaluation described in **Subsection 4.4.3**, below, the conclusions of the Initial Study would remain unchanged, with the exception of impacts to the wastewater collection system which are now addressed in **Subsection 4.4.2.6** of this section.

This section of the recirculated draft EIR has been revised to include an update to the analysis of greenhouse gas emissions, revisions to impact analysis to the wastewater collection system, and formatting changes to ease review of this section.

4.4.2 OTHER TOPICS FOR ENVIRONMENTAL ANALYSIS

Based on the conclusions of the published Initial Study and current California Environmental Quality Act (CEQA) regulations, further environmental analysis is required for impacts related to construction-phase air emissions, greenhouse gas emissions, hazards associated with naturally occurring asbestos, construction-related noise levels, risks associated with wildland fires, potential project-related traffic impacts, and wastewater impacts. These topics are evaluated below in adequate detail to meet CEQA requirements.

4.4.2.1 Global Climate Change ~~Impacts~~

~~*Global Climate Change*~~*Environmental Setting*

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer).[1] Climate change may result from:

- natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of greenhouse gas (GHG) and other gases to the atmosphere from volcanic eruptions); and
- human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

Greenhouse Effect

The natural process through which heat is retained in the troposphere[2] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a three-fold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and toward the Earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Without the greenhouse effect, the Earth's average temperature would be approximately -18 degrees Celsius (°C) (0° Fahrenheit [°F]) instead of its present 14 °C (57 °F).[3] The most abundant GHGs are water vapor and carbon dioxide. Many other trace gases have greater ability to absorb and re-radiate long-wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long-wave radiation. The GWP of a gas is determined using carbon dioxide as the reference gas with a GWP of 1.

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1 US EPA, 2008.

2 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers).

3 National Climatic Data Center, 2008.

Greenhouse Gases

State law defines greenhouse gases to include the following:[4]

- ~~**Water vapor (H_2O).** Water vapor is the primary contributor to the greenhouse effect. Water vapor and clouds contribute 66 to 85 percent of the greenhouse effect (water vapor alone contributes 36 to 66 percent).[5] Natural processes such as evaporation from oceans and rivers and transpiration from plants contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.[6] The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than 1 percent) to atmospheric concentrations of water vapor.[7] Therefore, the control and reduction of water vapor emissions is not within reach of human actions. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.~~

- **Carbon Dioxide (CO_2).** Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.[8] Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs. In 2004, 83.8 percent of California's GHG emissions were carbon dioxide.[9]

- **Methane (CH_4).** Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane come from landfills, natural gas systems, and enteric fermentation (US EPA n.d.[a]). Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

- **Nitrous Oxide (N_2O).** Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- **Hydrofluorocarbons (HFCs).** HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.

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4 All GWPs are given as 100-year GWP. Unless noted otherwise, all GWPs were obtained from the Intergovernmental Panel on Climate Change. 1996. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*. Cambridge (UK): Cambridge University Press.

~~5 Schmidt, 2005.~~

~~6 US Geological Survey, 2007.~~

~~7 Energy Information Administration, 2008.~~

8 US EPA, 2007.

9 California Energy Commission, 2006.

- **Perfluorocarbons (PFCs).** Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (Energy Information Administration n.d.). The GWPs of PFCs range from 5,700 to 11,900.

- **Sulfur hexafluoride.** Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]) (US EPA n.d.[b]).

Contributions to Greenhouse Gas Emissions

Global GHG emissions are separated into Annex 1 (i.e., industrialized countries) and Non-Annex 1 (i.e., developing countries) countries. Worldwide anthropogenic (man-made) GHG emissions as of 2005 (i.e., the latest year for which data are available for Annex I countries) totaled approximately 37,408 million metric tons of CO_2e ($MMTCO_2e$).[10,11] Five countries and the European Union accounted for approximately 52 percent of the total global GHG emissions in 2005 (s~~S~~ee **Table 4.4-1, Top Five GHG Producer Countries and the European Union**). The GHG emissions in more recent years may differ from the inventories presented in **Table 4.4-1**; however, the data is representative of currently available inventory data.

~~Anthropogenic GHG emissions worldwide as of 2005 (the latest year for which data are available for Annex I countries) totaled approximately 30,800 CO2 equivalent million metric tons (MMTCO2E).[19] The United States was the top producer of GHG emissions as of 2005. Based on GHG emissions in 2004, six of the states—Texas, California, Pennsylvania, Ohio, Illinois, and Florida, in ranked order—would each rank among the top 30 GHG emitters internationally.[21] The primary GHG emitted by human activities in the United States was CO_2, representing approximately 84 percent of total GHG emissions. CO_2, from fossil fuel combustion, the largest source of US GHG emissions, accounted for approximately 80 percent of US GHG emissions.[22] Based upon the 2004 GHG inventory data (the latest year available) compiled by the California Air Resources Board (CARB) for the California 1990 GHG emissions inventory, California~~

10 World Resources Institute, 2009. Excludes emissions and removals from land use, land-use change and forestry (LULUCF).

11 The CO_2 equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2e$)" The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2e$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO_2.

~~emitted 484 million metric tons of Carbon Dioxide Equivalent (MMTCO2E), including emission resulting from out-of-state electrical generation.[23] The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities.~~

Table 4.4-1
Top Five GHG Producer Countries and the European Union

Emitting Countries	GHG Emissions ($MMTCO_2e$)
China	7,250
United States	7,098
European Union (EU), 27 Member States	5,342
Russian Federation	1,992
India	1,863
Japan	1,383
Total	**24,928**

Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2009.
Excludes emissions and removals from land use, land-use change and forestry (LULUCF).

Based upon the 2004 GHG inventory data (i.e., the latest year for which data are available) compiled by CARB for the California 1990 greenhouse gas emissions inventory, California emitted 484 $MMTCO_2e$ including emissions resulting from imported electrical power in 2004 and 423 $MMTCO_2e$ ***excluding*** emissions related to imported power.[12]

A California Energy Commission emissions inventory report placed CO_2 produced by fossil fuel combustion in California as the largest source of California's GHG emissions in 2004, accounting for 80 percent of the total GHG emissions.[13] Emissions of CO_2 from other sources contributed 3.1 percent of the total GHG emissions; methane emissions 6.4 percent; nitrous oxide emissions 7.6 percent; and the remaining 3.2 percent was composed of emissions of high-Global Warming Potential gases.[14] These high Global Warming Potential gases are largely composed of refrigerants, with small contributions of SF_6 used in connection with insulating materials for electricity transmission and distribution.

12 CARB, 2007.

13 California Energy Commission, 2007.

14 Ibid.

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 4.4-2, GHG Emissions in California**, provides a summary of GHG emissions reported in California in 1990 and 2004 separated by categories defined by the Intergovernmental Panel on Climate Change.

Table 4.4-2
GHG Emissions in California

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2004 ($MMTCO_2e$)	Percent of Total
ENERGY	**386.41**	**89.2%**	**420.91**	**86.9%**
Energy Industries	157.33	36.3%	166.43	34.4%
Manufacturing Industries & Construction	24.24	5.6%	19.45	4.0%
Transport	150.02	34.6%	181.95	37.6%
Other (Residential/Commercial/Institutional)	48.19	11.1%	46.29	9.6%
Non-Specified	1.38	0.3%	2.16	0.4%
Fugitive Emissions from Oil & Natural Gas	2.94	0.7%	2.54	0.5%
Fugitive Emissions from Other Energy Production	2.31	0.5%	2.07	0.4%
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**4.2%**	**30.78**	**6.4%**
Mineral Industry	4.85	1.1%	5.90	1.2%
Chemical Industry	2.34	0.5%	1.32	0.3%
Non-Energy Products from Fuels & Solvent Use	2.29	0.5%	1.37	0.3%
Electronics Industry	0.59	0.1%	0.88	0.2%
Substitutes for Ozone Depleting Substances	0.04	0.0%	13.97	2.9%
Other Product Manufacture and Use	3.18	0.7%	1.60	0.3%
Other	5.05	1.2%	5.74	1.2%
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**4.4%**	**23.28**	**4.8%**
Livestock	11.67	2.7%	13.92	2.9%
Land	0.19	0.0%	0.19	0.0%
Aggregate Sources & Non-CO_2 Sources on Land	7.26	1.7%	9.17	1.9%
WASTE	**9.42**	**2.2%**	**9.44**	**1.9%**
Solid Waste Disposal	6.26	1.4%	5.62	1.2%
Wastewater Treatment & Discharge	3.17	0.7%	3.82	0.8%
EMISSIONS SUMMARY				
Gross California Emissions	433.29		484.40	
Sinks from Forests and Rangelands	-6.69		-4.66	
Net California Emissions	426.60		479.74	

Source: California Air Resources Board, Draft California Greenhouse Gas Inventory by IPCC Category, (2007).

Between 1990 and 2004, the population of California grew by approximately 6.5 million (from 29.8 to 36.3 million).[15] This represents an increase of 22 percent from 1990 population levels. In addition the California economy, measured as gross state product, grew from $788 billon in 1990 to $1.1 trillion in 2000 representing an increase of approximately 40 percent—the largest gross state product growth in the United States during this period. Despite the population and economic growth, California's net GHG emissions only grew by 12.5 percent. The California Energy Commission attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.[16]

Effects of Global Climate Change

The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2°C per decade, determined from meteorological measurements world-wide between 1990 and 2005.[17] Climate change modeling using 2000 emission rates shows that further warming would occur, which would induce further changes in the global climate system during the current century.[18]

Changes to the global climate system and ecosystems and to California would include, but would not be limited to:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[19]
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[20]
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[21]
- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[22]

15 U.S. Census Bureau, 2009; California Department of Finance, 2008.

16 California Energy Commission, 2006.

17 IPCC, 2007.

18 IPCC, 2007.

19 IPCC, 2007.

20 IPCC, 2007.

21 IPCC, 2007.

22 California EPA Climate Action Team, 2006.

- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century;[23]

- Increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level;[24]

- Increasing pest infestation making California more susceptible to forest fires; [25] and

- Increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures. [26]

- ~~the loss of sea ice and mountain snowpack resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;~~ [27]

- ~~a rise in global average sea level primarily due to thermal expansion and melting of glaciers and ice caps, the Greenland and Antarctic ice sheets;~~[28]

- ~~changes in weather that include widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;~~[29]

- ~~the decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;~~[30]

- ~~an increase in the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas of Los Angeles and the San Joaquin Valley by the end of the 21st century;~~[31] ~~and~~

- ~~high potential for erosion of California's coastlines and sea water intrusion into the Delta and associated levee systems due to the rise in sea level.~~[32]

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23 California EPA Climate Action Team, 2006.

24 California EPA Climate Action Team, 2006.

25 California EPA Climate Action Team, 2006.

26 California EPA Climate Action Team, 2006.

~~27 IPCC, 2007.~~

~~28 IPCC, 2007.~~

~~29 IPCC, 2007.~~

~~30 California EPA Climate Action Team, 2006.~~

~~31 California EPA Climate Action Team, 2006.~~

~~32 California EPA Climate Action Team, 2006.~~

Applicable Laws and Regulations

International Climate Change Legislation

The Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol governs compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform. The Protocol provided that these compounds were to be phased out by 2000 (2005 for methyl chloroform). In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess "the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation."[33]

Federal Climate Change Legislation

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments: "gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change."[34]

A particularly notable result of UNFCCC efforts was a treaty known as the Kyoto Protocol. Countries sign the treaty to demonstrate their commitment to reducing GHG emissions or to engaging in emissions trading. More than 179 countries representing more than 50 percent of global emissions (not including the United States) are currently participating in the protocol. In 1998, U.S. Vice President, Al Gore, symbolically signed the Protocol; however, in order for the Protocol to be formally ratified the U.S. Congress must adopt it, which has not yet occurred.

In October 1993, President Clinton announced his "Climate Change Action Plan," with the goal of returning greenhouse gas emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives, relying on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in greenhouse gas emissions. As of September 2007, 20 states have completed comprehensive Climate Action Plans that detail the steps that each state can take to reduce their contribution to climate change. However, without specific targets for emissions

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33 City of Ontario, Rich Haven Specific Plan EIR, Global Climate Change Analysis, June 28, 2007.

34 Intergovernmental Panel on Climate Change. 2004. 16 Years of Scientific Assessment in Support of the Climate Convention. December 2004.

reductions, incentives for cleaner technologies, or other clear policies, climate action plans cannot achieve real reductions in GHG emissions.[35]

The United States Environmental Protection Agency (EPA) currently does not regulate GHG emissions from motor vehicles. Massachusetts v. EPA (Supreme Court Case 05-1120) was argued before the US Supreme Court on November 29, 2006, in which it was petitioned that EPA regulate four GHGs, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was rendered on April 2, 2007, in which the Court held that petitioners have standing to challenge the EPA and that the EPA has statutory authority to regulate emission of GHG from motor vehicles.

On July 11, 2008, the EPA issued an Advance Notice of Proposed Rulemaking on regulating GHGs under the Clean Air Act. The Advance Notice of Proposed Rulemaking reviews the various Clean Air Act provisions that may be applicable to the regulation of GHGs and presents potential regulatory approaches and technologies for reducing GHG emissions. In the Advance Notice of Proposed Rulemaking, the US EPA seeks further public comment on the regulation of GHG emissions under the Clean Air Act.[36]

The EPA proposed a mandatory GHG reporting rule on March 10, 2009. The rule would require suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions submit annual reports to the EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers would begin reporting for model year 2011.

On May 19, 2009, the Obama Administration announced a new national policy intended to reduce fuel consumption and GHG emissions. The proposed standards cover model years 2012 through 2016 and will require an average fuel economy standard of 35.5 mpg in 2016 (39 mpg for cars, 30 mpg for trucks), or approximately 250 grams of CO_2 per mile. This policy is in contrast to the Corporate Average Fuel Economy (CAFE) standards established under 2007 legislation, which specified a minimum of 35 mpg by 2020. Both the EPA and the National Highway Traffic Safety Administration (NHTSA) issued a Notice of Upcoming Joint Rulemaking to Establish Vehicle GHG Emissions and CAFE Standards the same day as the announcement in order to establish a consistent national policy pursuant to the separate statutory frameworks under which EPA and Department of Transportation (DOT) operate (NHTSA is a division of DOT).

35 http://www.pewclimate.org/what_s_being_done/in_the_states/action_plan_map.cfm, accessed 10/ 12/07.

36 US Environmental Protection Agency, 2008.

California Activities

California Code of Regulations Title 24

Although it was not originally intended to reduce greenhouse gases, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest amendments, made in October 2005, currently require new homes to use half the energy they used only a decade ago. Energy efficient buildings require less electricity, and electricity production by fossil fuels results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

Assembly Bill 1493 (Pavley Standards)

AB 1493, enacted in July 2002, required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set the GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, CARB must consider cost-effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22 percent in greenhouse gas emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30 percent.

These regulations were challenged in federal court by automobile manufacturers, who claimed, among other things, that the law improperly regulated vehicle fuel economy, a duty assigned to the federal government. However, before these regulations may go into effect, the EPA must grant California a waiver under the federal Clean Air Act, which ordinarily preempts state regulation of motor vehicle emission standards. On December 19, 2007, the EPA denied the California waiver request, citing the need for a national approach to reducing greenhouse gas emissions, the lack of a "need to meet compelling and extraordinary conditions," and the benefits to be achieved through the Energy Independence and Security Act of 2007.[37] The California Attorney General filed suit in January 2008 to overturn the administrator's decision. Most recently, the Obama Administration issued an executive order requiring the EPA to reconsider granting the waiver. In light of the May 19, 2009 announcement by the Obama Administration establishing a target of 35.5 mpg by 2016, California—and states adopting California

[37] Letter to Governor Arnold Schwarzenegger from Stephen L. Johnson, December 19, 2007.

emissions standards—have agreed to defer to the proposed national standard through model year 2016 if granted a waiver by the EPA to implement the Pavley standards. The agreement also included automobile manufacturers who agreed to drop all lawsuits against California's standards in exchange for a single national standard through model year 2016. The 2016 endpoint of the two standards is nearly identical, although the national standard ramps up slightly more slowly than required under the California standard. The Pavley standards require additional reductions in CO_2 emissions beyond model year 2016. On June 30, 2009, the EPA formally approved California's waiver request. Nonetheless, California and other states adopting the California standards will not toughen standards beyond the proposed national standard until at least the 2017 model year.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

Senate Bill 1078 and 107

In 2002, Senate Bill 1078 (SB 1078, Sher) established California's Renewable Portfolio Standard which requires investor-owned utilities, such as Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric, to increase energy production from renewable source 1 percent per year up to a minimum of 20 percent of total energy generation by 2017. SB 107 (Simitian), signed by the Governor on September 26, 2008, accelerated the Renewable Portfolio Standard by requiring investor-owned utilities to meet the 20 percent target by 2010.

Assembly Bill 32

In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance.

CARB Early Action Measures

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early action greenhouse

gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. These early action GHG reduction measures are to be adopted and enforced before January 1, 2010, along with 32 other climate-protecting measures CARB is developing between now and 2011. The early action measures are divided into three categories:

- Group 1 - GHG rules for immediate adoption and implementation
- Group 2 - Several additional GHG measures under development
- Group 3 - Air pollution controls with potential climate co-benefits

The original three adopted early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include:

- A low-carbon fuel standard to reduce the "carbon intensity" of California fuels;
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance and to restrict the sale of "do-it-yourself" automotive refrigerants; and
- Increased methane capture from landfills by requiring broader use of state-of-the-art methane capture technologies.

The additional six early action regulations adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early action GHG reduction measures," include:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- Reduction of perfluorocarbons from the semiconductor industry;
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- Require that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- Restriction on the use of sulfur hexafluoride (SF_6) from non-electricity sectors if viable alternatives are available.
- State of California 1990 Greenhouse Gas Inventory

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at

427 million metric tons of carbon dioxide equivalents ($MMTCO_2e$). The inventory revealed that in 1990, transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide; followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (These figures represent the 1990 values). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

CARB Mandatory Reporting Requirements

In addition to the 1990 emissions inventory, CARB also adopted regulations requiring the mandatory reporting of GHG emissions for large facilities on December 6, 2007. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of greenhouse gas emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of carbon dioxide each year from on-site stationary combustion sources. Transportation sources, which account for 38 percent of California's total greenhouse gas emissions as of the 2002–2004 GHG inventory conducted by CARB,[38] are not covered by these regulations but will continue to be tracked through existing means. Affected facilities will begin tracking their emissions in 2008, to be reported beginning in 2009 with a phase-in process to allow facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 may be based on best available emission data. Beginning in 2010, however, emissions reporting requirements will be more rigorous and will be subject to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

AB 32 Climate Change Scoping Plan

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. CARB released the *Climate Change Proposed Scoping Plan* in October 2008, which contains an outline of the proposed State strategies to achieve the 2020 greenhouse gas emission limits. The CARB Governing Board approved the *Climate Change Scoping Plan* on December 11, 2008. The *Climate Change Scoping Plan* indicates how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The *Climate Change Scoping Plan* identifies 18 recommended

38 California Air Resources Board, 2009.

measures the state should implement to achieve AB 32. Throughout 2009 and 2010, CARB will draft rule language and conduct a series of public workshops and rulemakings based on the scoping plan recommendations.

Key elements of the Scoping Plan include the following recommendations:

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

Under the Scoping Plan, approximately 85 percent of the state's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. The emissions cap incorporates a margin of safety whereby the 2020 emissions limit will still be achieved even in the event that uncapped sectors do not fully meet their anticipated emission reductions. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reduction from this cap-and-trade program will account for a large portion of the reductions required by AB 32.

Table 4.4-3, AB 32 Scoping Plan Measures, lists CARB's preliminary recommendations for achieving greenhouse gas reductions under AB 32 along with a brief description of the reduction strategies.

Table 4.4-3
AB 32 Scoping Plan Measures

Scoping Plan Measure	Description
SPM-1: California Cap-and-Trade Program linked to Western Climate Initiative	Implement a broad-based cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms. Capped sectors include transportation, electricity, natural gas, and industry. Projected 2020 business-as-usual emissions are estimated at 512 $MTCO_2e$; preliminary 2020 emissions limit under cap-and-trade program are estimated at 365 $MTCO_2e$ (29 percent reduction).
SPM-2: California Light-Duty Vehicle GHG Standards	Implement adopted Pavley standards and planned second phase of the program. AB 32 states that if the Pavley standards (AB 1493) do not remain in effect, CARB shall implement equivalent or greater alternative regulations to control mobile sources.
SPM-3: Energy Efficiency	Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts. The Proposed Scoping Plan considers green building standards as a framework to achieve reductions in other sectors, such as electricity.
SPM-4: Renewables Portfolio Standard	Achieve 33 percent Renewable Portfolio Standard by both investor-owned and publicly owned utilities.
SPM-5: Low Carbon Fuel Standard	CARB identified the Low Carbon Fuel Standard as a Discrete Early Action item and the final regulation was adopted on April 23, 2009. In January 2007, Governor Schwarzenegger issued Executive Order S-1-07, which called the reduction of the carbon intensity of California's transportation fuels by at least ten percent by 2020.
SPM-6: Regional Transportation-Related Greenhouse Gas Targets	Develop regional greenhouse gas emissions reduction targets for passenger vehicles. SB 375 requires CARB to develop, in consultation with metropolitan planning organizations, passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. SB 375 requires metropolitan planning organizations to prepare a sustainable communities strategy to reach the regional target provided by CARB.
SPM-7: Vehicle Efficiency Measures	Implement light-duty vehicle efficiency measures. CARB is pursuing fuel-efficient tire standards and measures to ensure properly inflated tires during vehicle servicing.
SPM-8: Goods Movement	Implement adopted regulations for port drayage trucks and the use of shore power for ships at berth. Improve efficiency in goods movement operations.
SPM-9: Million Solar Roofs Program	Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.
SPM-10: Heavy/Medium-Duty Vehicles	Adopt heavy- and medium-duty vehicle and engine measures. Measures targeting aerodynamic efficiency, vehicle hybridization, and engine efficiency are recommended.

Scoping Plan Measure	Description
SPM-11: Industrial Emissions	Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
SPM-12: High Speed Rail	Support implementation of a high-speed rail system. This measure supports implementation of plans to construct and operate a high-speed rail system between Northern and Southern California serving major metropolitan centers.
SPM-13: Green Building Strategy	Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
SPM-14: High Global Warming Potential Gases	Adopt measures to reduce high global warming potential gases. The Proposed Scoping Plan contains 6 measures to reduce high global warming potential gases from mobile sources, consumer products, stationary sources, and semiconductor manufacturing.
SPM-15: Recycling and Waste	Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.
SPM-16: Sustainable Forests	Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The federal government and California's Board of Forestry and Fire Protection has the regulatory authority to implement the Forest Practice Act to provide for sustainable management practices. This measure is expected to play a greater role in the 2050 goals.
SPM-17: Water	Continue efficiency programs and use cleaner energy sources to move water. California will also establish a public goods charge for funding investments in water efficiency that will lead to as yet undetermined reductions in greenhouse gases.
SPM-18: Agriculture	In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020. Increase efficiency and encourage use of agricultural biomass for sustainable energy production. CARB has begun research on nitrogen fertilizers and will explore opportunities for emission reductions.

Source: California Air Resources Board, Climate Change Scoping Plan, (2008).

~~In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements~~

~~necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost effective GHG emission reductions. AB 32 allows CARB to adopt market based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market based compliance mechanism adopted. In order to advise CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. By January 2008, the first deadline for AB 32, a statewide cap for 2020 emissions based on 1990 levels and mandatory reporting rules for significant sources of GHGs must be adopted. The following year (January 2009), CARB must adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions.~~

~~In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of greenhouse gases for large facilities on December 6, 2007. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for 94 percent of greenhouse gas emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules including electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of carbon dioxide each year from on site stationary combustion sources. Transportation sources, which account for 38 percent of California's total greenhouse gas emissions, are not covered by these regulations but will continue to be tracked through existing means. Affected facilities will begin tracking their emissions in 2008, to be reported beginning in 2009 with a phase in process to allow facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 may be based on best available emission data. Beginning in 2010, however, emissions reports will be more rigorous and will be subject to third party verification. Verification will take place annually or every three years, depending on the type of facility.~~

~~The first action under AB 32 resulted in the adoption of a report listing early action greenhouse gas emission reduction measures on June 21, 2007. The early actions include three specific GHG control rules. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. These early action GHG reduction measures are to be adopted and enforced before January 1, 2010. As indicated above, AB 32 requires CARB to adopt a scoping plan by January 2009 indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. CARB released a discussion draft of the Climate Change Draft~~

~~Scoping Plan in June 2008 that contains preliminary recommendations to reduce greenhouse gas emissions to 1990 levels. Key elements of the Draft Scoping Plan include the following preliminary recommendations:~~

- ~~Expansion and strengthening of existing energy efficiency programs and building and appliance standards;~~
- ~~Expansion of the Renewables Portfolio Standard to 33 percent;~~
- ~~Development of a California cap and trade program that links with other Western Climate Initiative Partner programs to create a regional market system;~~
- ~~Implementation of existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard;~~
- ~~Targeted fees to fund the State's long term commitment to AB 32 administration.~~

~~Under the Draft Scoping Plan, approximately 85 percent of the State's emissions are subject to a cap and trade program where covered sectors are placed under a declining emissions cap that, by 2020, will reduce emissions from those sources by almost 30 percent.[39] Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reduction from this cap and trade program will account for a large portion of the reductions required by AB 32. The Draft Scoping Plan is undergoing further development and will be adopted by 2009.~~

Senate Bill 1368

SB 1368, signed by Governor Schwarzenegger on September 29, 2006, requires the CEC to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly-owned utilities. Standards adopted by the CEC must be consistent with the standards adopted by the Public Utilities Commission. This effort will help to protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low or lower than new combined-cycle natural gas plants, by requiring imported electricity to meet GHG performance standards in California and requiring that the standards be developed and adopted in a public process.

~~[39] CARB, 2008.~~

Executive Order S-1-07

On January 18, 2007, California set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2-equivalent gram per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The LCFS will apply to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

~~***Senate Bill 1078***~~

~~SB 1078 establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward by SB 107 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1 percent each year. The outcomes of this legislation will impact regional transportation powered by electricity.~~

Senate Bill 97

In August 2007, the legislature enacted SB 97 (Dutton), which directs the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of greenhouse gas emissions by July 1, 2009. The Resources Agency is directed to adopt the guidelines by January 1, 2010.

OPR Climate Change Technical Advisory

On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents.[40] The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a less

40 Governor's Office of Planning and Research, *Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, (2008).

than significant level. The advisory did not recommend a specific threshold of significance. Instead, OPR requested that CARB recommend a method for setting thresholds that lead agencies may adopt.[41]

OPR and CARB Working To Formulate CEQA Guideline Amendments

In its work to formulate CEQA Guideline Amendments for GHG emissions, OPR submitted the *Proposed Draft CEQA Guideline Amendments for Greenhouse Gas Emissions* to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency will conduct formal rulemaking in 2009. OPR's draft guidance reiterates that OPR has requested that CARB recommend a statewide method for setting thresholds of significance. CARB is working to formulate the requested guidance. On October 24, 2008, CARB staff released draft *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*.[42]

~~SB 97 (Dutton), enacted in August 2007, directs the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of greenhouse gas emissions. OPR is to develop proposed guidelines by July 1, 2009, and the Resources Agency is directed to adopt guidelines by January 1, 2010. On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents.[43] The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a less than significant level. The advisory did not recommend a specific threshold of significance—either quantitative or qualitative—leaving this to the lead agency's judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.~~

Local Activities

County of San Mateo Green Building Program

In February 2008, the San Mateo County Board of Supervisors approved the Green Building Program.[44] The program is intended to encourage the conservation of natural resources, to reduce waste in landfills

41 Office of Planning and Research, *Proposed Draft CEQA Guideline Amendments for Greenhouse Gas Emissions*, (2009) 4.

42 California Air Resources Board, *Preliminary Staff Draft Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*, (2008) 7.

~~43 OPR, 2008.~~

44 Building Ordinance Code, Chapter 14, Sections 1401-1407.

from construction projects, to increase energy efficiency and reduce usage, to reduce operating and maintenance costs for buildings, and to promote a healthier indoor environment. The project applicant must demonstrate that the residential project receives at least 50 GreenPoints on the Single-Family GreenPoint Checklist, or LEED for Homes certification in order for the building permit to be approved. Compliance with these guidelines would reduce potential GHG emissions by approximately 50 percent, as compared to conventional building practices.

Significance Criteria for Evaluating Effects

To date, no local or state air quality agency has adopted significance criteria for GHG emissions. While the Global Warming Solutions Act (AB 32) created a framework for the reduction of GHGs in California, the Act did not address the role of CEQA in achieving the goals of AB 32. Within this CEQA context of determining whether a particular impact is significant or not, SB 97[45] was enacted in August 2007. It directs the Governor's Office of Planning and Research to develop and the Resources Agency to adopt *State CEQA Guidelines*[46] for the mitigation of GHG emissions. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents.[47] This technical advisory is intended to provide informal guidance to be used by lead agencies until OPR and the Resources Agency fulfill their SB 97 obligations. The advisory did not recommend a specific threshold of significance—either quantitative or qualitative—leaving this to the lead agency's judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.

Despite the foregoing, this Draft EIR provides a discussion of the impacts of the project with respect to global climate change in the absence of an established significance threshold. To assess the impact of the proposed project with respect to global climate change, the project's operational GHG emissions are quantified on a carbon dioxide equivalent (CO_2E) basis. In addition, the project is evaluated based on its ability to meet the emissions reduction targets and strategies prescribed in AB 32, as well as the extent to which the project would offset associated vehicle miles traveled (VMTs) and greenhouse gas emissions.

The impact related to climate change is evaluated in this Draft EIR using the following significance threshold:

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45 Public Resources Code Section 21083.05.

46 Title 14, Calif. Code of Regs., Subsection 15000 et seq.

47 OPR, 2008.

- The proposed project will be considered to create a significant climate change impact if it is inconsistent with or impedes the emissions reduction targets developed by the state pursuant to AB 32.

Impact Assessment Methodology

GHG emissions resulting from the implementation of the proposed project would occur from two categories: short-term construction activities and long-term day-to-day operations of the proposed project. Construction activities would generate GHG emissions as a result of heavy-duty construction equipment and construction worker trips. Following construction of the proposed project, operational GHG emissions would be generated primarily due to project-related motor vehicle trips. GHG emissions would also be generated from on-site stationary and area sources such as natural gas combustion, landscape maintenance equipment, and periodical architectural coating for building maintenance. URBEMIS2007 Version 9.2.4 was used to quantify mobile and area source GHG emissions (i.e., CO_2) resulting from the proposed project. The emissions of CO_2, the primary GHG associated with mobile and area sources, estimated using URBEMIS2007, were adjusted to convert CO_2 emissions to GHG emissions on a carbon dioxide equivalent (CO_2E) basis as demonstrated below.

- Motor vehicles: The CO_2 emissions associated with construction workers and project residents [and customers] were multiplied by a factor based on the assumption that CO_2 represents 95 percent of the CO_2E emissions associated with passenger vehicles, which account for most of the project-related trips, and by 365 operational days per year.[48]

- Area sources (natural gas combustion): The CO_2 emissions from natural gas consumption for the residential units were adjusted based on emission factors for CO_2, CH_4, and N_2O for natural gas combustion from the California Climate Action Registry's *General Reporting Protocol*,[49] the global warming potential for each GHG; and 365 days per year.

- Construction diesel trucks and equipment: No adjustment was made to the CO_2 emissions because the GHGs in the exhaust from diesel engines are almost entirely CO_2 (less than 1 percent CH_4 and N_2O on a CO_2 equivalent basis).

The project would also result in indirect GHG emissions due to the electricity demands of the project. Emission factors for GHGs due to electrical demand from the proposed project's land uses were obtained from the South Coast Air Quality Management District CEQA Air Quality Handbook, which provides electrical demand factors for a variety of land uses in California and from the California Climate Action Registry General Reporting Protocol, which provides GHG emission factors for CO_2, CH_4, and N_2O for electricity in California. These emission factors take into account the current mix of energy sources used

48 US EPA, 2005, 4.

49 California Climate Action Registry, 2008.

to generate electricity statewide and the relative carbon intensities of these sources, and include natural gas, coal, nuclear, large hydroelectric, and other renewable sources of energy.

Indirect GHG emissions are also associated with the electrical demand resulting from the provision of water to the project site, electrical demand and process emissions due to wastewater treatment, and decomposition of solid waste generated by the project. The electrical demand associated with supplying water to the project site was calculated based on the estimated water use.

Project Impacts and Mitigation Measures

Impact GCC-1: The proposed project would generate GHG emissions as a result of its day-to-day activities, which would not contribute substantially to potential cumulative impacts of GHG emissions. (*Less than Significant*)

The proposed project would generate GHG emissions as a result of its day-to-day activities, which would contribute to potential cumulative impacts of GHG emissions, but, as shown in the analysis below, the project's contribution would not be considerable. The primary source of GHGs in California is fossil fuel combustion. The primary GHG associated with fuel combustion is CO_2, with lesser amounts of methane and nitrous oxide. Accordingly, the proposed project would result in emissions of GHGs from motor vehicles and mobile construction equipment and building heating and water systems associated with the project, which would contribute to the global GHG inventory. Building and motor vehicle air conditioning systems may use HFCs (and HCFCs and CFCs to the extent that they have not been completely phased out at later dates), which may result in emissions through leaks. The other primary GHGs (perfluorocarbons and sulfur hexafluoride) are associated with specific industrial sources and are not expected to be associated with the proposed project.

The estimated GHG emissions associated with construction and operation of the proposed project are shown in **Table 4.4-~~4~~1, Estimated Construction Greenhouse Gas Emissions,** and **Table 4.4-5~~2~~, Estimated Operational Greenhouse Gas Emissions**, respectively.

Table 4.4-~~4~~1
Estimated Construction Greenhouse Gas Emissions

Construction Year	Emissions in Metric Tons CO_2E Per Year
2009	128.74
2010	59.52

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 4.4**.*

Table 4.4-5~~2~~
Estimated Operational Greenhouse Gas Emissions

Emissions Source	Emissions in Metric Tons CO_2E Per Year
Direct GHG Emissions	
Operational (Mobile) Sources	167.46
Area Sources	40.72
Total Direct GHG Emissions	**208.18**
Indirect GHG Emissions	
Electrical Generation	24.69
Water Supply	3.35
Solid Waste	2.47
Total Indirect GHG Emissions	**30.51**
Total Proposed Project	**238.69**

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 4.4.***

Until appropriate guidance and thresholds of significance are developed and formally adopted, a determination of project-specific impact with respect to GHG emissions from the project would be speculative and contrary to CEQA (See Anderson First Coalition v. City of Anderson (2005) 130 Cal.App.4th 1173 and Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners (2001) 91 Cal.App.4th 1344, 1370. In addition, it is generally the case that an individual project of this size is of insufficient magnitude by itself to influence climate change. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.[50] Accordingly, further discussion of the project's greenhouse gas emissions and their impact on global climate are provided below in the context of a cumulative impact.

In the absence of quantitative emissions thresholds, consistency with adopted programs and policies is used by many jurisdictions to evaluate the significance of a project's contribution to a cumulative impact. For purposes of this Draft EIR, analysis of GHG impacts includes a quantification of the project's operational GHG emissions on a carbon dioxide equivalent (CO2e) basis, and an analysis of the project's consistency with the implementing programs and regulations to achieve the statewide GHG emission reduction goals established under AB 32. These factors were used to evaluate the significance of the proposed project with respect to cumulative GHG emissions. The GHG emission reduction strategies applicable to the proposed project are listed below in **Table 4.4-6~~3~~, Project Features to Achieve Climate**

50 CAPCOA, 2008.

Action Team Strategies, along with a discussion of how the project would be consistent with the proposed strategies.

Table 4.4-~~6~~3
Project Features to Achieve Climate Action Team Strategies

CAT Strategy	Implementing Agency	Project Feature
Vehicle Climate Change Standards	Air Resources Board	The project would be consistent with this strategy to the extent that new passenger vehicle and light trucks might be purchased by the project's users starting in the 2009 model year.[1]
HFC Reduction Strategies	Air Resources Board	Proposed residential unit air conditioning systems would comply with the latest standards for new systems. Use of consumer products using HFCs would comply with CARB regulations, when adopted.
Smart Land Use and Intelligent Transportation Systems	Local Lead Agency	The proposed project is located in an area that is already developed in residential uses, is close to an existing freeway, commercial uses, and existing employment. The project also provides direct access to public spaces, walkable streets, and public transportation.
Green Buildings Initiative	Energy Commission	Energy performance standards would be required for the project per Title 24, consisting of energy efficient standards for the heating, ventilation, and air conditioning (HVAC) system and other appliances that could be installed in residential units and common areas of the site. These appliances include centralized gas fire water heating, reversible ceiling fans to help distribute air in summer and winter, central air conditioning utilizing same ducting system as central heating, and meeting Title 24 requirements for insulation, air infiltration, and natural heating. The County would also require that the project conform to the Green Building Program for the development of the proposed 11 residential units. The Program requires that the project applicant demonstrate that the residential project receives at least 50 GreenPoints, which would include energy efficiency and reduction measures.

CAT Strategy	Implementing Agency	Project Feature
Water Use Efficiency	Department of Water Resources	Water use efficiency standards would be required for the proposed project, per the requirements of the International Building Code. The water usage and quality standards would promote water use reduction by using back-flow prevention valves on all faucets and a pressure reducer to ensure that water pressure never exceeds 80-pounds per square inch. Other water quality standards for the project would include storm water quality control and management on the project site. Additionally, the County also requires that the project conform to the Green Building Program for the development of the proposed 11 residential units. The Program requires that the project applicant demonstrate that the residential project receives at least 50 GreenPoints, which could include water use efficiency measures

[1] *The US EPA has denied the waiver that would allow these standards to be implemented; however, the state has filed a lawsuit to overturn this decision. The implementation of these standards and the time schedule for the introduction of compliance passenger vehicles and light trucks are in question at this time. However, if the waiver is granted, all 2009 model year passenger and light trucks purchased by project residents would be consistent with the climate change standards.*

Additionally, the Applicant for the development of the proposed project would be required to comply with the County of San Mateo's Green Building Program for the development of the proposed 11 residential units. The Program requires that the project applicant demonstrate that the residential project receives at least 50 GreenPoints on the Single-Family GreenPoint Checklist, or LEED for Homes certification in order for the building permit to be approved. Compliance with these guidelines would reduce potential GHG emissions by approximately 50 percent, as compared to conventional building practices. Examples of the kinds of practices that a project could adopt in order to comply with the GreenPoint Checklist include: protecting topsoil and minimizing disruption of existing plants and trees; recycling job site construction waste; deconstructing instead of demolishing existing buildings on site; using Forest Stewardship Council-certified wood; installing high efficiency air conditioning with environmentally responsible refrigerants; installing an energy efficient HVAC filter; installing wiring conduits for future photovoltaic installation; installing a solar water heating system; installing an energy and water efficient dishwasher; design the site for walking and bicycling; design infill sites; and construct resource efficient landscapes. Incorporation of these types of measures into the construction of the proposed project would further reduce GHG emissions associated with the project.

The proposed project is a small-scale project proposed in a residentially developed area. The project site is centrally located within the Bay Area, and is well located with respect to centers of employment and shopping areas. Additionally, the project is proposed in an area that already includes existing roadways and freeways. It is reasonable to expect that residents of the development would make shorter trips to

their places of work and shopping from this location, as compared to similar housing that is located in rural areas and other portions of San Mateo County that are at a further distance from centers of employment and shopping centers. Because the project is a small project located in a developed urban area, it is appropriate to assume that implementation of the project would reduce the amount of vehicle miles traveled (VMT) occurring within the district and basin. A reduction in VMT would subsequently generate fewer GHG emissions, which is consistent with the goals of AB 32.

The proposed project would also be implementing the County's Green Building Ordinance which would require that proposed development meet the goals of the GreenPoint Checklist including energy and design efficiency. As a result, this project's total contribution to GHG emissions would be expected to be negligible. In addition, the California Attorney General has also prepared a list of potential mitigation measures to offset or reduce global warming impacts from local projects. The complete table of suggested mitigation measures is included in **Appendix 4.4**. These suggested measures would also be applied to the project to the extent feasible. A project that implements measures consistent with this list would be considered to have reduced its GHG emissions. As discussed above, the proposed project's operational activities would generate a minor amount of motor vehicle emissions. Nevertheless, motor vehicle emissions represent the largest source of criteria and GHG emissions associated with the proposed project and since global climate change is a cumulative impact, any further reduction in GHG emissions would help mitigate and minimize the project's GHG emissions contribution to the environment.

In summary, due to the low VMTs that would be generated by the project, the measures proposed to reduce the project's GHG emissions through the Green Building Ordinance and other efficiency measures, and the project's consistency with AB 32, the project's impact on global climate change would be less than significant and no mitigation measures are required. Implementation of the Attorney General's suggested mitigation measures would help further reduce GHG emissions associated with the proposed project.

4.4.2.2 Construction-Related Air Quality Impacts

Impact AQ-1: The proposed project would generate pollutants that would violate existing standards of air quality on site or in the surrounding area or violate an air quality standard or contribute substantially to an existing or project air quality violation. (*Potentially Significant; Less than Significant with Mitigation*)

Under the County CEQA Guidelines, development of the project site as proposed would create a significant air quality impact if it were to:

- Generate pollutants (hydrocarbon, thermal odor, dust or smoke particulates, radiation, etc.) that will violate existing standards of air quality on site or in the surrounding area or violate any air quality standard or contribute substantially to an existing or project air quality violation

Pollutant emissions would be generated during construction of the proposed homes. The estimated construction emissions associated with project development have been calculated using the land use and transportation computer model URBEMIS2007 (Version 9.2.4). URBEMIS2007 is distributed and approved for use by the CARB and recommended for quantification of construction and operational emissions by the Bay Area Air Quality Management District (BAAQMD). The construction emissions that would occur as a result of the proposed project are presented below in **Table 4.4-74, Highland Estates Estimated Construction Emissions.**

Table 4.4-74
Highland Estates Estimated Construction Emissions

Construction Year	Emissions in Tons per Year					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2009	0.18	1.37	0.81	0.00	0.70	0.20
2010	0.36	0.51	0.37	0.00	0.03	0.03

Source: Impact Sciences, Inc.
Emissions calculations are provided in ***Appendix 4.4****.*

The BAAQMD does not set quantitative significance thresholds for construction emissions due to the temporary and short-term nature of such activities, but rather emphasizes that all feasible control measures be implemented during construction to minimize the generation of PM_{10} during construction activities. The BAAQMD has provided a list of PM_{10} control measures in their CEQA Guidelines that when fully implemented, would significantly reduce PM_{10} emissions during construction activities. If these measures are not incorporated during construction activities then the pollutant emissions generated during such activities are considered potentially significant. Implementation of the following mitigation measures would be required to reduce construction-related air quality impacts to a less-than-significant level.

Mitigation Measure AQ-1: The Pproject ~~sponsors~~ Applicant shall require that the following BAAQMD recommended and additional PM_{10} reduction practices be implemented by including them in the contractor construction documents:

- The first phase of construction shall require 30 percent of construction equipment to meet Tier 1 EPA certification standards for clean technology. The remainder of construction equipment (70 percent), which would consist of older technologies, shall be required to use emulsified fuels.

- The second phase of construction shall require 30 percent of construction equipment to meet Tier 2 EPA certification standards for clean technology and 50 percent to meet Tier 1 EPA certification standards. The remaining 20 percent of construction equipment, which would consist of older technologies, shall use emulsified fuels.

- For all larger vehicles, including cement mixers or other devices that must be delivered by large trucks, vehicles shall be equipped with CARB level three verified control devices.

- Water all active construction areas at least twice daily.

- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.

- Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction sites.

- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction sites.

- Sweep public streets adjacent to construction sites daily (with water sweepers) if visible soil material is carried onto the streets.

- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

- Limit traffic speeds on unpaved roads to 15 miles per hour.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

- Replant vegetation in disturbed areas as soon as possible.

- Install wheel washers for all exiting trucks or wash off the tires or tracks of all trucks and equipment leaving the construction site.

- Install wind breaks at the windward sides of the construction areas

- Suspend excavation and grading activities when wind (as instantaneous gusts) exceeds 25 miles per hour.

4.4.~~2.3~~3 Construction-Related Noise Impacts

Impact NOI-1: The proposed project would generate noise levels in excess of levels determined appropriate according to the County Noise Ordinance standard. (*Potentially Significant; Less than Significant with Mitigation*)

Under the County CEQA Guidelines, development of the project site as proposed would create a significant noise impact if it were to:

- Generate noise levels in excess of levels determined appropriate according to the County Noise Ordinance standard.

Construction activities would result in short-term noise impacts that would affect the surrounding area. As discussed in **Section 3.0, Project Description** of the EIR, approximately 2,2~~0~~00 cubic yards (cy) of earth materials would need to be imported to the project site. Approximately ~~167~~ 183 truck trips would be involved in the transport of this material. The haul routes would take large, heavy-duty dump trucks past residential uses, which are considered sensitive receptors. Trucks associated with grading activities occurring on Bunker Hill Drive would travel to the site on I-280 and enter the site from the west and trucks associated with grading activities along Ticonderoga Drive would travel to the site along Polhemus Road and enter the site from the east. It is anticipated that up to five truck trips to import fill could be completed daily. Therefore, the total site import process could be completed within a timeframe of four to five weeks, depending on the construction schedule, weather, and equipment availability. As a result, associated truck trips could generate short-term noise that would be considered a nuisance to the surrounding community or that may temporarily exceed County noise standards.

The proposed homes would be built on drilled piers and no piles are proposed. Therefore, noise from pile driving is not a concern for the project. ~~In addition,~~ However, other construction equipment including tractors, backhoes, and dirt haulers for site preparation would be employed during construction that would generate noise that could impact neighbors in adjacent residences. As a result, the following mitigation measures would be required to mitigate short-term construction-related noise impacts to a less-than-significant level.

Mitigation Measure NOI-1: The Project Applicant shall require that the following noise reduction practices be implemented by including them in the contractor construction documents:

- Equipment and trucks used for project construction would utilize the best available noise control techniques (e.g., improved exhaust mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds) in order to minimize construction noise impacts.

- Equipment used for project construction would be hydraulically or electrically powered impact tools (e.g., jack hammers and pavement breakers) wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers would be used on other equipment. Other quieter procedures would be used such as drilling rather than impact equipment whenever feasible.

- The construction activity would be kept to the hours of 7:00 AM to 7:00 PM, Monday through Friday. Saturday hours (8:00 AM to 5:00 PM) are permitted upon the discretion of County approval based on input from nearby residents and businesses. Saturday construction (8:00 AM to 5:00 PM) would be allowed once the buildings are fully enclosed.

- Stationary noise sources would be located as far from sensitive receptors as possible. If they must be located near existing receptors, they would be adequately muffled and/or enclosed within temporary sheds.

- Machinery, including motors, would be turned off when not in use for more than 10 minutes.

- Mobile equipment shall not be allowed to run idle near existing residences.

- Residential property owners within 200 feet of planned construction areas shall be notified of the construction schedule in writing, prior to construction; the project sponsor shall designate a "disturbance coordinator" who shall be responsible for responding to any local complaints regarding construction noise; the coordinator (who may be an employee of the developer or general contractor) shall determine the cause of the complaint and shall require that reasonable measures warranted to correct the problem be implemented; a telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site fence and on the notification sent to neighbors adjacent to the site.

4.4.2.4 Hazards and Hazardous Materials Impacts ~~(Wildland Fire)~~

Impact HAZMAT-1: The proposed project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. (*Potentially Significant; Less than Significant with Mitigation*)

Under the County CEQA Guidelines, development of the project site as proposed would create a significant hazards impact if it were to:

- Expose people or structures to a significant risk of loss, injury, or death involving wild land fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The California Department of Forestry and Fire Protection (Cal-Fire) is responsible for fire protection within this service area and is designated as a State Responsibility Area (SRA) for the protection from wildland type fires. San Mateo County also contracts with Cal-Fire to provide structural fire suppression, life safety inspections, and medical emergencies to unincorporated portions of the County including the project site.

Homes proposed on lots 1 through 4 located along Bunker Hill Drive would abut an area of dense trees and foliage on the open space parcel. Homes 9, 10, and 11 are also proposed on lots located adjacent to

areas of dense tree cover on the open space parcel. According to the County's significance criteria, because these homes are located in an area where residences are intermixed with wildlands, the proposed project could expose residents to risks associated with wildland fires. Due to the large amount and location of dense vegetation on the open space parcel, wildland fire risks would be considered potentially significant in the open space portion of the site adjacent to proposed homes 1 through 4 and 9, 10, and 11.

The San Mateo County Fire Protection Ordinance, Section 3.84.100, requires property owners to maintain fuel breaks by removing all hazardous flammable materials or growth from the ground around each improvement for a distance of not less than 30 feet from its exterior circumference up to a distance of 100 feet, as may be required by the County Fire Chief to protect improvements. Due to the large amount and location of dense vegetation on the open space parcel, application of a requirement for fuel clearance around each residence of up to 100 feet would be necessary to adequately reduce this impact. It should be noted that proposed homes on lots 1-4 and 9, 10, and 11 are located only approximately 30 feet from the rear property lines. Section 3.84.100 states that "where the distance from the improvements to the property line of the parcel upon which the improvement is located is less than the distance required to be cleared, the property owners of the improved property shall bear any and all costs associated with clearing an area sufficient to provide the required fuel break, including costs of clearing any area that is adjacent to the property."

As a result, the following mitigation measure would be required to mitigate wildland fire impacts to a less-than-significant level.

Mitigation Measure HAZMAT-~~3~~2: Individual property owners for lots 1 through 4 and 9, 10, and 11 shall be responsible for maintaining a fuel break by removing all hazardous flammable materials or growth from the ground around each home for a distance of not less than 100 feet from its exterior circumference, for the life of the project. Property owners of lots listed above shall arrange with the property owner of the open space parcel to obtain legal access to the open space parcel for the purpose of vegetation clearance. This would not include the authorization of tree removal for trees protected by the RM zoning regulations. This requirement shall be recorded as a deed restriction on lots 1 through 4, and 9, 10, and 11 prior to the start of construction on these lots.

Impact HAZMAT-2: The proposed project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Potentially Significant; Less than Significant with Mitigation*)

~~4.4.2.5 HAZARDS AND HAZARDOUS MATERIALS IMPACTS (NATURALLY OCCURRING ASBESTOS)~~

Under the County CEQA Guidelines, development of the project site as proposed would create a significant hazards impact if it were to:

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Bedrock at the project site consists of the Franciscan Complex, which includes the rock type serpentine, a metamorphic rock that contains serpentine minerals including antigorite, lizardite and chrysotile asbestos. Naturally occurring asbestos, which includes the serpentine mineral chrysotile, can be a health risk when airborne dust is inhaled. Per the geologic evaluation for the Highland Estates Residential Development Project completed by Treadwell & Rollo in 2008 (see **Appendix 4.4**), serpentine minerals could be present at the surface of the project site, and were also found below the surface in SFS test pits and borings conducted in 1994.[51] If naturally occurring asbestos in the serpentine bedrock and associated soils is found on the project site, this would constitute a health risk for construction workers and future residents. Therefore, this is considered a potentially significant operational and construction impact and the following mitigation measure would apply. Implementation of the mitigation measure would reduce the impact from the presence of naturally occurring asbestos to a less-than-significant level.

Mitigation Measure HAZMAT-4<u>3</u>: During the design level geotechnical investigation, representative soil samples shall be obtained for each lot proposed on an area underlain or potentially underlain by serpentine bedrock. These samples shall be tested for the presence of naturally occurring asbestos by a state certified testing laboratory in accordance with requirements of the CARB and the BAAQMD and the results shall be provided to the County Planning Department.

If naturally occurring asbestos is identified at the site, a site health and safety (H&S) plan including methods for control of airborne dust shall be prepared. This plan shall be reviewed and approved by the County of San Mateo prior to grading in areas underlain by serpentine-bearing soils or bedrock and naturally occurring asbestos. The H&S plan shall strictly control dust-generating excavation and compaction of material containing naturally occurring asbestos. The plan shall also identify site-monitoring activities deemed necessary during construction (e.g., air monitoring). Worker monitoring shall also be performed as appropriate. The plan shall define personal protection methods to be used by construction workers. All worker protection and monitoring shall comply with provisions of the Mining

51 SFS (1994)

Safety and Health Administration (MSHA) guidelines, California Division of Occupational Safety and Health (DOSH), and the Federal Occupational Safety and Health Administration (OSHA).

If naturally occurring asbestos is found at the site, a Soil Management Plan shall be developed and approved by the County Planning Department to provide detailed descriptions of the control and disposition of soils containing naturally occurring asbestos. Serpentine material placed as fill shall be sufficiently buried in order to prevent erosion by wind or surface water run-off, or exposure to future human activities, such as landscaping or shallow trenches. Additionally, the BAAQMD shall be notified prior to the start of any excavation in areas containing naturally occurring asbestos.

4.4.2.5~~6~~ Transportation Impacts

Impact TRANS-1: The proposed project would not result in significant transportation-related impacts. (*Less than Significant*)

~~Significance Criteria for Evaluating Effects~~

Under the County CEQA Guidelines, development of the project site as proposed would create a significant impact to traffic and circulation if it were to result in:

- a noticeable change in vehicular traffic patterns or volumes (including bicycles);
- an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- an increase in traffic hazards or substantial increase in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- a failure to provide for alternative transportation amenities such as bike racks; or
- traffic which will adversely affect the traffic carrying capacity of any roadway.~~;~~

For the proposed project, the impacts on the local and regional roadway system are described in terms of change in LOS and average intersection delay. The LOS standards established for San Mateo County vary by roadway segment, and in some cases, by intersection.

Per the City and County Association of Governments (C/CAG) Policy on Traffic Impact Analysis (2006), a project is considered to have a significant impact if it meets one or more of the following criteria:

- If the project will cause an intersection currently in compliance with the adopted LOS standard to operate at a level of service that violates that standard.

- If the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in an intersection currently in compliance with the adopted LOS standard to operate at a level of service that violates that standard and the proposed project increases average control delay at the intersection by 4 seconds or more.

- If the project will add any additional traffic to an intersection that is currently not in compliance with its adopted level of service standard as established in the CMP. According to the CMP, adopting LOS standards based on geographic differences helps to prevent future congestion levels from getting worse than anticipated at the time the CMP was published. As none of the project study intersections are specifically included in the list of CMP intersections, the adopted standard (LOS D) for similar facilities in the study area was implemented.

A traffic report was prepared by Fehr & Peers in September 2008 for the project, including updated analysis that addresses the 11 total proposed residential units. A copy of this report is included in **Appendix 4.4**.[52] According to the traffic report, the proposed project would generate 108 daily trips, 13 AM peak hour trips, and 15 PM peak hour vehicle trips. According to the traffic report, project-related traffic would not substantially exacerbate vehicle delays at the project study intersections under existing conditions.

Under cumulative conditions (the proposed project developed in consideration with development of other planned and approved projects), intersection delays and LOS vary slightly from no project conditions (assuming future development occurs without the project). The project's contribution to traffic growth at all study intersections would be very low, representing an average contribution of less than 1 percent of overall cumulative traffic. More specifically, under cumulative conditions, project-generated traffic trips would account for approximately 0.5 percent and 0.75 percent of total AM and PM peak hour growth. Under cumulative conditions, average intersection delays would remain the same at most locations during the AM and PM peak hours, but intersection operations would change from LOS B to LOS C at the Polhemus Road/DeAnza Boulevard intersection during the PM peak hour, due to an increase of 0.5-second in delay. However, because project-related traffic would not increase intersection delays under cumulative conditions by more than 4 seconds and, thus, would not exceed the County's significance criteria for cumulative traffic impacts, the project would have a less than significant cumulative impact on the roadway network and intersection operations.

~~Given the location of t~~The proposed project is located within 250 feet of ~~near~~ two bus routes ~~with nearby stops~~ that operate on school days from 7:15 AM to 8:00 AM and from 1:00 PM to 3:20 PM~~, the project is consistent with the County's policy of encouraging transit ridership as well as non motorized forms of~~

[52] Caltrans provided comments on the traffic report that was circulated with the Draft EIR in December 2008. A copy of Caltrans' comment letter and a memo prepared by Fehr & Peers in response to the comments are included in **Appendix 1.0**. Caltrans comments did not result in any changes to the analysis in the traffic report.

~~transportation~~. The low numbers of residential units that comprise the proposed project, along with the separation between the clusters of proposed units, contribute to the expectation that the existing transit network would adequately accommodate any increases in transit demand generated by the project. Therefore, according to the County's significance criteria, the project would have a less than significant impact on the existing transit network.

Due to the generally suburban location of the proposed project, project generated pedestrian and bicycle trips would be lower than if it were located in a more densely developed, pedestrian-oriented environment. Additionally, the low number of expected pedestrian and bicycle trips would be adequately accommodated by existing facilities. However, the Project Applicant should ensure that any bicycle and pedestrian facilities included in the project are consistent with adjacent facilities. According to the County's significance criteria, the project would have a less than significant impact on the bicycle and pedestrian network.

Project construction would occur over a period of one year. Construction vehicles would be expected to travel to and from the Ticonderoga Drive sites via Polhemus Road and Highway 92, whereas construction vehicles traveling to and from the Bunker Hill sites would use Highway 92 and Skyline Boulevard. Due to the hillside location of the project, preparation of the building sites would involve cut and fill. As discussed in **Subsection 3.5.1**, cut earthwork materials would be used on site as fill and would not have to be off-hauled. However, about 2,200 cubic yard (cy) of fill materials would need to be imported. Given that a typical haul truck can carry approximately 12 cy of earth materials, approximately 183 truck trips would be associated with the in-haul of fill and drain rock. It is anticipated that up to five truck trips to import fill could be completed daily and the total site import process could be completed within a timeframe of four to five weeks, depending on the construction schedule, weather, and equipment availability. This small number of daily truck trips would not adversely affect the operation of intersections between the worksites and the nearest freeways. Following completion of grading, additional truck movement would be involved with the delivery of construction materials to the project site. However, given the small number of homes proposed, the number of daily truck trips to the site during construction is expected to be small. The impact from construction truck traffic would therefore be less than significant. To further reduce this impact, the following improvement measure is proposed.

All of the other transportation impacts were found to be less than significant and are summarized in the **Effects Found not to be Significant** subsection below.

Improvement Measure TRANS-1: The Project Applicant shall prepare and submit a Construction Management Plan that will, among other things, require that all truck movement associated with project construction occur outside the commute peak hours.

4.4.2.6 Wastewater Impacts

Impact UTIL-1: The proposed project would require hookup to an existing sewage collection system which is at or over capacity, and therefore could potential result in water quality impacts from sewage overflows. (*Potentially Significant; Less than Significant with Mitigation*)

Under the *County CEQA Guidelines*, development of the project site as proposed would create a significant impact related to wastewater if it were to result in:

- Require installation of a septic tank/leachfield sewage disposal system or require hookup to an existing collection system which is at or over capacity or have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed homes would connect to the existing Crystal Springs County Sanitation District (District) sewer system and would therefore not require septic systems. The District operates sewer lines within the County and has approximately 1,500 individual connections. There is an existing Sanitary Sewer Agreement between the District, the Town of Hillsborough, the County of San Mateo, and the City of San Mateo. This agreement allows the District and Hillsborough to send wastewater, through shared sewer trunk lines, to the City of San Mateo Wastewater Treatment Plant. The jurisdictions contribute their fair share of costs for maintenance and upgrades to the wastewater collection system.

The proposed homes would connect to the wastewater treatment plant via the existing sewer lines that run along Ticonderoga Drive and Bunker Hill Drive. The proposed sewer system would be gravity fed, except for the lower levels of homes planned along Bunker Hill Drive and the house on Cowpens Way (see page 3.0-12). As these homes would descend away from the street, it is possible that the lower bathrooms would be below the existing sewer lines within the street right-of-ways. Sewer lift pumps would be installed for these homes under the residential structure and would be electrically powered to lift the wastewater up to the level of the existing sewer line.

Currently, the sewer collection system is over capacity during the wet seasons and sewer system overflows have occurred within the jurisdictions of all three collection entities, with the majority of the overflows occurring in the Town of Hillsborough and the City of San Mateo collection systems. The San Francisco Regional Water Quality Control Board (RWQCB) has prepared a tentative Cease and Desist Order that includes the District, the Town of Hillsborough, and the City of San Mateo to address sewer system overflows. The jurisdictions are evaluating capital improvement projects to reduce wet weather sewer overflows. Based on the District's agreement with both agencies, a portion of the costs associated with future projects will be paid by the District. The District currently has a $1 million loan from the

County General Fund for a past capital improvement project completed by the Town of Hillsborough. The District also owes the City for their proportionate share of the current wastewater treatment plant project estimated at $1.3 million.[53]

The District currently is working toward paying the fee to contribute to the upgrade of the sewer line. Consequently, no new connections to the District would be issued by the City of San Mateo until the County fee is paid.

The proposed project would add 11 single-family homes to the District's service area. These homes are expected to generate approximately 220 gallons of wastewater per residential home, per day, or a total of 2,420 gallons per day for the project. Based on comments from the District on the December 2008 Draft EIR for this project, additional wastewater flows from the proposed project would exacerbate existing downstream capacity problems. This is a potentially significant impact. However, with implementation of **Mitigation Measure UTIL-1**, connecting the proposed 11 homes to the existing sewer system would result in a less-than-significant impact to water quality associated with sewage overflows.

Mitigation Measure UTIL-1: The Project Applicant shall mitigate the project-generated increase in sewer flow such that there is a "zero net increase" in flow during wet weather events, by reducing the amount of existing Inflow and Infiltration (INI) into the Crystal Springs County Sanitation District (District) sewer system. This shall be achieved through the construction of improvements to impacted areas of the sewer system, with construction plans subject to District approval. Construction of improvements, as approved by the District, shall be completed prior to the start of the construction of the residences. In addition, as project sewage will be treated by the City of San Mateo's Wastewater Treatment Plant, the Project Applicant shall submit payment of the City of San Mateo Wastewater Treatment Plant Expansion development impact fee to the City of San Mateo. This fee is based on the number of bedrooms in each residential unit and is calculated at the time of the final plans, using the City's fee schedule in effect at the time of the building permit application.

Impact UTIL-2: The proposed project would require the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would not cause significant environmental effects. (*Less than Significant*)

53 Correspondence from James Porter of the San Mateo County Public Works Department regarding the Proposed Ascension Heights Subdivision Environmental Impact Report (EIR) Solid Waste & Sewer Service, September 17, 2008.

Under the *County CEQA Guidelines*, development of the project site as proposed would create a significant impact related to wastewater if it were to:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The City of San Mateo operates the wastewater treatment plant and analyzes flow that is anticipated to enter the facility. An Environmental Impact Report was prepared for the wastewater treatment plant in 1990. That document recommended additional capacity be added to the plant to accommodate future anticipated growth in the area. The treatment plant was expanded in 1998 and the capacity was increased to 15.7 mgd. An additional capacity study was conducted by the City of San Mateo in 2000 as part of its Sanitary Sewer Agreement with the Town of Hillsborough and the Crystal Springs County Sanitation District. The study found that the wastewater treatment plant capacity would be sufficient to accommodate future cumulative growth in the three jurisdictions. The City of San Mateo indicated that the current capacity of its wastewater treatment plant is 15.7 millions gallons per day (mgd). The current average flow that is received by the plant is approximately 12 mgd. This leaves a remaining capacity of 3.7 mgd. The proposed project would generate approximately 2,420 gallons per day. The additional wastewater flows from the proposed project would not contribute significantly to nor create the need for an expansion of the wastewater treatment plant that would result in an environmental impact. Therefore, the proposed project would not require the construction of wastewater treatment facilities.

With respect to improvements to existing wastewater collection lines to reduce INI, all of the improvements would be made along the existing sewer line alignments located within road right-of-ways. Because these improvements would occur in areas already disturbed or paved in conjunction with the existing sewer lines and roads, the sewer line INI improvements will not result in significant environmental impacts.

Impact UTIL-3: The proposed project would require the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would not cause significant environmental effects. (*Less than Significant*)

Under the *County CEQA Guidelines*, development of the project site as proposed would create a significant impact related to stormwater if it were to:

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project consists of the development of 11 residential units, which would result in a minor increase in storm water runoff. The existing off-site storm drain facilities would be adequate to handle the

flows from the project and an expansion of storm drain capacity would not be required. This is because the pre- and post-development stormwater runoff volumes from the project site would be the same due to on-site bio-retention systems that are proposed as part of the project.

With respect to the on-site storm drain improvements, f~~F~~or each on-site system, the respective property owner would be required to maintain the bio-retention system in good working order in accordance with an executed Operation and Maintenance Agreement with the County, per National Pollutant Discharge Elimination System (NPDES) requirements. The environmental impacts associated with these on-site improvements would be within the scope of construction-related effects discussed in technical sections of this EIR (e.g., construction-related air emissions, noise, biological resources, etc.). Therefore, construction of on-site (private) drainage facilities at the project site would have a less--than--significant impact.

~~Thefore~~In summary, the proposed project would not require the construction of new off-site storm water drainage facilities and impacts are not considered significant.

4.4.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the *State CEQA Guidelines* requires an EIR to briefly describe any potential environmental effects that were determined not to be significant during the Initial Study and EIR scoping process and were, therefore, not discussed in detail in the EIR. The following is a discussion of the effects of the proposed project that were found not to be significant according to *County CEQA Guidelines*. The full analysis of less than significant impacts can be found in the Initial Study, included as **Appendix 1.0** of this draft EIR.

4.4.3.1 Land Suitability and Geology

Would the project:

- Involve a unique landform or biological area, such as beaches, sand dunes, marshes, tidelands, or San Francisco Bay?

The project site does not contain a unique landform such as beaches, sand dunes, marshes, tidelands or portions of the San Francisco Bay.

- Involve Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?

Class I and Class II soils consist of a wide variety of soils that may be used to cultivate crops. The soils are nearly level, deep, well drained, and easily worked. The soils present on the project site are not normally considered well-drained soils. Additionally, the slopes that exist on the site preclude effective

management of the land for agricultural purposes. Therefore, the soils on the project site are not considered good for artichokes or Brussels sprouts, or any other crop cultivation and no impact would occur.

- Result in damage to soil capability or loss of agricultural land or convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The project site is undeveloped and characterized by rolling landscape with hills, canyons and dense vegetation. The soil types are not suitable to support agriculture as described above. Furthermore, the project site is considered "Other Land" by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). This land classification includes, "low density rural development, brush, timber, wetland, and riparian areas not suitable for livestock grazing." Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as "Other Land" as well. Therefore, no impact would occur.

- Be located within a flood hazard area or place within a 100-year flood hazard area structures which would impede or redirect flood flows?

According to the Flood Insurance Rate Maps (FIRM) produced by the Federal Emergency Management Agency (FEMA), the project site is not located in a flood hazards zone, and is not in an area that may be inundated by a 100-year flood. Therefore, project implementation would not place people or structures within a flood zone.

- Be located in an area where a high water table may adversely affect land use?

No groundwater was found in the area proposed for development at the project site in borings that were drilled to a depth of approximately 20 feet. While there may be areas of the project site that have a higher water table due to the various elevations and slopes that exist, the areas proposed for development would not be adversely affected by a high water table. Therefore, no impact would occur.

4.4.3.2 Vegetation and Wildlife

Would the project:

- Be located inside or within 200 feet of a marine or wildlife reserve?

The proposed project is not located within 200 feet of an established marine or wildlife reserve. Therefore, no impact would occur.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Habitat Conservation Plans or Natural Community Conservation Plans have been adopted that encompass the project site and its vicinity. Therefore, the proposed project would not conflict with any approved local, regional, or state habitat conservation plan. No impact would occur.

4.4.3.3 Physical Resources

Would the project:

- Result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, oil, trees, minerals, or top soil) or result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The project would not result in the removal of a natural resource for commercial purposes. The proposed project would remove vegetation, trees, and soils associated with construction, but these materials would not be used for commercial purposes upon removal. Mineral resources on the project site (rock, sand, or gravel) are not considered to be of value to the region or the residents of the state according the County General Plan. Therefore, no impact would occur.

- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

There are no known locally-important mineral resources on the project site denoted in the County General Plan. Therefore, no impact would occur.

- Involve lands currently protected under the Williamson Act (agricultural preserve) or an Open Space Easement or conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site is not currently under a Williamson Act contract. There are no other easements on the land such as agricultural preserve or permanent open space. The existing zoning on the project site, Resource Management District (RM) and Single-Family Residential (R-1/S-9), allows for single-family residential development. Therefore, the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Therefore, no impact would occur.

- Affect any existing or potential agricultural uses or involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No agricultural uses exist at the project site. As discussed above, the soils present on the site are not suitable for agricultural production. Surrounding land uses are mainly single-family residential, with

some commercial uses at the southeastern boundary of the project site. The proposed project would not affect any existing or potential agricultural uses. Therefore, no impact would occur.

4.4.3.4 Air Quality, Water Quality, Sonic

Would the project:

- Involve the burning of any material, including brush, trees and construction materials?

The proposed project would not involve burning of any brush, trees, or construction materials. The vegetation that would be removed would be cleared and disposed of at a landfill that accepts green waste. No burning activities are anticipated to occur as result of the daily activities associated with the developed site. Therefore, no impact would occur.

- Conflict with or obstruct implementation of the applicable air quality plan?

Future residential development built on the site could generate additional criteria air pollutants during construction and operation that could potentially conflict with applicable air quality plans. The additional homes proposed on the site would result in increases in emissions of criteria air pollutants from mobile source (vehicle) and area/stationary source (e.g., consumer products natural gas combustion).

The BAAQMD is the regional governmental agency that regulates sources of air pollution in the nine counties of the San Francisco Bay area. According to BAAQMD, the air district currently does not meet state and national standards for ozone or state standards for respirable particulate matter (PM_{10}). In order to address this, BAAQMD has developed the Bay Area 2000 Clean Air Plan. The 2000 CAP is the third triennial update of the District's original 1991 Clean Air Plan. The 2000 CAP includes a control strategy review to ensure that the plan continues to include "all feasible measures" to reduce ozone, an update of the District's emission inventory, estimates of emission reductions achieved by the plan, and an assessment of air quality trends. The County General Plan was adopted in 1986. Given this, the 2000 CAP includes development identified in the County's General Plan. The project does not require a General Plan Amendment, and thus is consistent with the General Plan. Therefore, the project is consistent with the 2000 CAP.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

The BAAQMD is in non-attainment of the federal and state standards for ozone and PM_{10}. However, the project would not emit daily direct or indirect emissions of ROG, NOx, and PM_{10} that would exceed BAAQMD recommended thresholds. Furthermore, mitigation measures would be implemented pursuant

to the BAAQMD requirements to reduce PM_{10} emissions during construction to a less than significant level. Lastly, the BAAQMD does not consider ozone precursors associated with construction to impede attainment or maintenance of ambient air quality standards. Given the above, the proposed project would not substantially contribute considerably to a cumulative net increase in emissions of ozone precursors and PM_{10}. Therefore, impacts are considered less than significant.

- Create objectionable odors affecting a substantial number of people?

Residential land uses are not generally associated with odor problems. According to the BAAQMD, facilities such as wastewater treatment plants, sanitary landfills, petroleum refineries, and chemical manufacturing plants are typically the types of land uses that emit objectionable odors. No such facilities are proposed as part of the project. Therefore, no impact would occur.

- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The project operation would not generate groundborne noise or vibration at levels that would expose people or structures to risk of harm. No pile driving would occur during the construction phase of the project. There are no nearby operable rail lines, airports, or other sources of groundborne noise or vibration. Highway 92 and I-280 are less than 1 mile from the project site, but given the existing physical barriers between the freeways and the project site, no groundborne noise or vibration is expected to occur on the project site. Therefore, no impact would occur.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project is not located within an airport land use plan or in the vicinity of a public or private airstrip. The closest airport is San Carlos Airport, located approximately 5 miles southeast from the project site. Therefore, implementation of the project would not expose residents or workers to excessive noise levels associated with aircraft overflights and no impacts would occur.

- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within the vicinity of a private airstrip. Therefore, implementation of the project would not result in any excessive noise levels related to private airstrips.

- Generate polluted or increased surface water runoff or affect groundwater resources or substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the

production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Potable water for this portion of the County comes from the California Water Service contracts for water from the Hetch-Hetchy and Crystal Springs Reservoir water systems. There are no existing groundwater wells in the project vicinity that supply water to the project area. Project implementation would convert 4.53 acres of undeveloped land into impervious surface through the construction of 11 residential homes. However, the areas proposed for development on site are not known as significant groundwater recharge areas, and thus implementing the project would not deplete groundwater supplies or interfere substantially with groundwater recharge that would result in a deficit in aquifer volume or lowering of the local groundwater table.[54] Given the above, the project would not affect groundwater resources.

- Violate any water quality standards or waste discharge requirements?

The proposed project would be required to adhere to the NPDES permit requirements and the County's Municipal Code requirements that regulate water quality during construction and operation of the proposed project. Implementation of these requirements would ensure that water quality standards and waste discharge requirements are met during the construction and operation of the proposed project. Therefore, impacts to water quality standards and waste discharge requirements are considered less than significant.

~~•Require installation of a septic tank/leachfield sewage disposal system or require hookup to an existing collection system which is at or over capacity or have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?~~

~~The proposed homes would connect to the existing Crystal Springs County Sanitation District (District) sewer system and would therefore not require septic systems. The District operates sewer lines within the County and has approximately 1,500 individual connections. There is an existing Sanitary Sewer Agreement between the District, the Town of Hillsborough, and the City of San Mateo. This agreement allows the District and Hillsborough to send wastewater, through shared sewer trunk lines, to the City of San Mateo Wastewater Treatment Plant. The jurisdictions contribute their fair share of costs for maintenance and upgrades to the wastewater collection system.~~

~~The proposed homes would connect to the wastewater treatment plant via the existing sewer lines that run along Ticonderoga Drive and Bunker Hill Drive. The proposed sewer system would be gravity fed, except for the lower levels of homes planned along Bunker Hill Drive. As these homes would descend from the street, it is possible that the lower bathrooms would be below the existing sewer lines on Bunker~~

54 Soil Foundation Systems, 1993.

~~Hill Drive. Sewer lift pumps would be installed for these homes under the residential structure and would be electrically powered to lift the wastewater up to the level of the existing sewer line.~~

~~Currently, the sewer collection system is over capacity during the wet seasons through the Town of Hillsborough and the City of San Mateo. Both jurisdictions are evaluating projects to reduce wet weather sewer overflows. Based on the District's agreement with both agencies, a portion of the costs associated with future projects will be paid by the District. The District currently has a $1 million loan from the County General Fund for a past capital improvement project completed by the Town of Hillsborough. The District also owes the City for their proportionate share of the current wastewater treatment plant project estimated at $1.3 million.[55]~~

~~The District currently is working toward paying the fee to contribute to the upgrade of the sewer line. Consequently, no new connections to the District would be issued by the City of San Mateo until the County fee is paid.~~

~~The proposed project would add 11 single family homes to the District service area. These homes are expected to generate approximately 220 gallons of wastewater per residential home, per day, or a total of 2,420 gallons per day for the project. Based on communication with the staff at the wastewater treatment plant, the 11 new connections would not substantially worsen the existing collection system as the daily flows would be a small portion of the estimated 330,000 gallons currently flowing through the system. The percentage increase of wastewater flows upon project implementation would be less than 1 percent[56] of the current collection system. Given the above, project implementation would not substantially impact existing capacity with the sewer collection system. Furthermore, the proposed residential homes would not be able to connect to the sewer collection system until the District pays its fair share contribution toward the improvement planned for the sewer collection system. Lastly, the Project Applicant would be required to pay sewer connection fees at that time of connection to the existing sewer collection system through the building permit process. Given the above, connecting the proposed 11 homes to the existing sewer system would result in less than significant impacts.~~

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The area of the project site along Bunker Hill Drive that is proposed for development is within a 0.25 mile of the Highlands Elementary School. However, the proposed residential homes are not expected to emit

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~~55 Correspondence from James Porter of the San Mateo County Public Works Department regarding the Proposed Ascension Heights Subdivision Environmental Impact Report (EIR) Solid Waste & Sewer Service, September 17, 2008.~~

~~56 2,420 gallons per day/ 330,000 gallons per day =0.73%~~

hazardous materials or handle hazardous materials. There may be some household hazardous materials present in the proposed homes, but these would not be different than materials used by existing residential uses and any hazardous wastes generated would be disposed of through the County Household Hazardous Waste program. However, some hazardous materials may be present during construction activities. Construction equipment typically consists of heavy-duty trucks, dozers, dump trucks, street sweepers, and standard-size vehicle trucks. These vehicles are operated with fuels, including gasoline and diesel. Other minor amounts of hazardous material may be present at the site during construction activities. Accidental spills of fuels and other hazardous materials could potentially create a hazardous situation on and off site. Implementation of **Mitigation Measure HazMat-1** included in the Initial Study, would reduce this impact to a less than significant level. Furthermore, construction is a temporary condition at the project site. Given the above, impacts would not be significant.

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A records search was conducted by Impact Sciences for the project site through the Envirostor Database operated by the California Department of Toxic Substances Control. This database contains information regarding federal superfund sites, state response sites, voluntary cleanup sites, and school cleanup sites. Included in the State Response sites are hazardous materials sites compiled pursuant to Government Code Section 65962.5. The records search indicated that there are no known hazardous materials sites within the project site. The nearest site, a voluntary cleanup site, is located approximately 0.5 mile south of the project site. This site includes the PG&E San Mateo Natural Gas Pipeline. The pipeline provides gas service to urban areas along the San Mateo peninsula and is predominantly buried underground except for exposed areas along stream channel crossings. Polychlorinated Biphenyls (PCBs) may be present as a trace contaminant of hydrocarbon liquids within the natural gas pipeline. Although there was no confirmed release of PCBs for this pipeline, PG&E performed a voluntary cleanup of the site. The site was certified in 2004 for completing all remedial action necessary to clean the site. Therefore, this site does not pose a hazardous threat to the future residents of the proposed project. No other sites were found within a 5-mile radius of the project site. Given that there are no hazardous materials sites on the project site, and the nearest known site completed cleanup in 2004, there is no hazard to the public and the environment and the impact is considered less than significant.

- For a project located within an airport land use plan or, where such plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The project site is approximately 5 miles northwest of the San Carlos Airport, and lies outside the boundaries of the San Carlos Airport Land Use Plan. Therefore, implementation of the project would not expose people on the project site to hazards from aircraft overflights.

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The project site is not located within the vicinity of a private airstrip. Therefore, implementation of the project would not result in any safety hazards related to private airstrips.

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project site is not located within the 100-year floodplain according to FEMA. Furthermore, there are no levees or dams within the project vicinity. Therefore, no impact from flooding is likely to occur.

- Inundation by seiche, tsunami, or mudflow?

Active faults within the San Francisco Bay Area have largely horizontal movement and are not expected to generate significant water waves in the San Francisco Bay. Given the distance of the project site from the bay's edge, the potential for flooding from a seiche would be minimal. The project's location near the middle of the San Mateo peninsula effectively shields it from tsunamis. Given the topography of the project site, there could be mudflow movement on portions of the project site during storm events. However, the risk associated with mudflow is not expected to inundate the project site. Therefore, implementation of the project would result in no impact from the risk of inundation from seiche, tsunami, or mudflow.

4.4.3.5 Transportation

Would the project:

- Affect access to commercial establishments, schools, parks, etc.?

The project site is an undeveloped parcel adjacent to an existing residential neighborhood. Access to the project site would be provided by existing roadways (i.e., Bunker Hill Drive and Ticonderoga Drive). Project implementation would develop about 4.53 acres of undeveloped land into 11 residential lots. Implementation of the proposed project would not affect any existing roadway circulation patterns. Access to surrounding commercial establishments, schools, or parks would not be affected as a result of the proposed project during construction or operation. Therefore, project implementation would have no impact to existing commercial establishments, schools, and parks.

- Cause noticeable increase in pedestrian traffic or a change in pedestrian patterns?

The proposed project would include the development of 11 single-family homes. Existing and future residents near the project site would utilize existing sidewalks along Bunker Hill Drive and the southern sidewalk along Ticonderoga Drive. No roadways or pedestrian walkways would be altered as a result of the proposed project.

- Involve the use of off-road vehicles of any kind (such as trail bikes)?

The proposed project involves the construction of 11 single-family homes and the preservation of approximately 92.46 acres of open space. No trails or other recreational activities are proposed for the open space. Residential uses typically do not result in the use of off-road vehicles. Therefore, physical impacts related to the use of off-road vehicles are not expected to occur with project implementation.

- Result in or increase traffic hazards or substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

As discussed above, the addition of the proposed project would not generate a substantial amount of motor vehicle trips in the project vicinity. Accordingly, the project would not result in a traffic hazard or an increase in traffic hazards. The project design would add driveways for the proposed homes. These design features are not expected to create traffic-related hazards. Therefore, the impact is considered less than significant.

- Provide for alternative transportation amenities such as bike racks?

The proposed project consists of single-family residential homes and the preservation of open space. The significance criterion does not apply to the proposed project.

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

The City/County Association of Governments (C/CAG) is the Congestion Management Agency (CMA) that sets the state and federal funding priorities for improvements affecting the San Mateo County Congestion Management Program (CMP) roadway system. C/CAG-designated CMP roadway system components near the project site include SR 92 and I-280. C/CAG established the level of service standard for major roadways in San Mateo County. The additional project vehicle trips would not contribute substantially to the local roadway system. Therefore, project implementation would not individually or cumulatively exceed a level of service standard established by the CMP.

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The project would not affect air traffic patterns as there is no airport within 5 miles of the project site. Therefore, no impact would occur, with project implementation, to air traffic patterns.

- Result in inadequate emergency access?

The portions of the project site that are proposed for development are adjacent to an existing residential neighborhood. Access to the project site would be provided by existing roadways (i.e., Bunker Hill Drive and Ticonderoga Drive). Implementation of the proposed project would not affect existing roadway circulation patterns (see **Appendix 4.4**). The proposed project would provide driveways to the residences. Given the above, no impact would occur to emergency access with project implementation.

- Result in inadequate parking capacity?

According to Section 6118 of the County Code, two parking spaces are required for each proposed single-family residential home. The proposed project would provide covered garage parking for two vehicles on site for each home. Therefore, no impact would occur.

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The County has adopted policies related to alternative transportation (Policies 12.23-12.40 in the County General Plan). These policies are usually intended for commercial, office, retail, and industrial developments. The proposed project includes the development of 11 single-family homes and the preservation of open space. ~~These homes are located near public transportation facilities thereby providing future residents access to alternative modes of transportation available to the project area.~~ Public transit service is currently provided to the project area by SamTrans, a San Mateo County bus system. There are two fixed routes near the project site (Routes 53 and 58). The nearest bus stops for these lines are within approximately 250 feet of the project site. These lines currently operate on school days only from 7:15 AM to 8:00 AM and from 1:00 PM to 3:20 PM. Increased ridership associated with the proposed project would not exceed bus capacity. Therefore, no impact would occur.

4.4.3.6 Land Use and General Plans

Would the project:

- Result in the congregating of more than 50 people on a regular basis?

The proposed project involves the construction of 11 single-family homes and the preservation of open space. It is not expected that these land uses would result in the congregation of 50 or more people on a regular basis.

- Result in the introduction of activities not currently found within the community?

The proposed project involves the construction of 11 single-family homes and the preservation of open space. These uses are common and consistent with the existing land uses in the community. Therefore, the single-family residential uses of the proposed project would not be a new type of activity in the area.

- Employ equipment which could interfere with existing communication and/or defense systems?

The equipment that would be used for the proposed project would include standard construction equipment. The types of construction vehicles that may be used include dozers, graders, street sweepers, dump trucks, and construction worker vehicles. Equipment that may be used by future residential homeowners of the site may include gardening equipment and personal electronics. While it is unknown exactly what specific types of equipment may be used upon project implementation, the equipment allowed by law for both construction and private home use would not interfere with existing communication and/or defense systems.

- Result in any changes in land use, either on or off the project site?

Project implementation would result in changes in land use to the project site; no changes in off-site land use are proposed. The approximately 97-acre site is currently undeveloped open space. The proposed project would develop approximately 4.53 acres of the project site into single-family residential uses. Although the project would change the existing uses of the land, the single-family residential uses are allowed under the current zoning for the project site by the County of San Mateo RM zoning regulations and current single-family residential zoning. Therefore, the change in land use is not considered a significant impact.

- Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities) or induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would not introduce new industry, commercial facilities, or recreation activities to the area. The project would create 12 new lots, 11 of which would be single-family homes and the 12th lot, approximately 92 acres in size would be designated as permanent open space. The proposed project is in a developed neighborhood with existing sewer and water infrastructure systems. The project would not expand existing utilities such as wastewater, water service and circulation systems beyond those necessary to provide services to the 11 homes. Therefore, this would be a less than significant impact.

- Adversely affect the capacity of any public facilities (streets, highways, freeways, public transit, schools, parks, police, fire, hospitals), public utilities (electrical, water and gas supply lines, sewage and storm drain discharge lines, sanitary landfills) or public works serving the site?

Streets, Highways, Freeways: See discussion under **Subsections 4.4.3.5 Transportation** and **4.4.2.9 Transportation Impacts** above.

Public Transit: The public transit service currently provided to the project area is SamTrans, a San Mateo County bus system. There are two fixed routes near the project site (Routes 53 and 58). The current ridership for this bus line is 18 passengers per bus, with an overall capacity of 41 passengers per bus. According to the San Mateo County Housing Element, the average population for single-family residential units in the Highlands neighborhood is 2.97 persons per dwelling unit. The project would add approximately 33 persons to the area. The additional residents generated by the project are not expected to adversely affect the capacity of these bus routes.[57] Therefore, impacts are not considered significant.

Schools: The San Mateo-Foster City School District administers the one elementary school in the project area. The current student generation rate for new construction is 1 student for every 4 single-family dwelling units for elementary schools, and one student for every 10 single-family dwelling units for middle school. Given this, the project would generate three elementary school students and one middle school student. The nearest elementary school is Highlands Elementary School. The current capacity of the school is 412 and as of March 2007, the current enrollment was 405 students. The project would generate three elementary school students and would thereby increase the enrollment of the Highlands Elementary School to 408. As shown, Highlands Elementary has sufficient capacity to serve the project. The closest middle school to the project site is Borel Middle School. The current enrollment is 915 students and the School District indicated that the addition of one student to the campus would not significantly affect the school.[58] Therefore, impacts are not considered significant.

The nearest high school to the project site is Aragon High School and is administered by the San Mateo Union High School District. The student generation rate for high school student is 0.12 student per single-family dwelling unit. Given this, the proposed project would generate one high school student. The current capacity of Aragon High School is 1,500 students. The school year for 2006-2007 had a student enrollment of 1,523 students, which currently exceeds the capacity. The School District indicated that while the current enrollment is over capacity, there are expansion projects currently under construction. It is expected that these expanded facilities would add classroom space, facilities and faculty areas. The School District indicated that upon project implementation, the addition of one student is not expected to

57 SamTrans, 2007.

58 San Mateo-Foster City School District, 2008.

significantly affect the capacity of Aragon High School.[59] Therefore, impacts are not considered significant.

Parks: The proposed project does not include any public parks or recreational uses. The portion of the site that would be designated as open space would not provide access to the public for trails or other outdoor uses. The nearest recreational facilities to the site are the Highlands Recreation Center, play fields on the Highlands Elementary school site, and the County-operated Sawyer Camp Trail. The proposed project would be required to pay a "park in-lieu fee" to the County Parks Department. This fee is assessed on all proposed subdivision projects based on the number of units and the assessed value of the land. The project would contribute its share of the "park in-lieu fee" to fund maintenance and operation of County owned parks. It is not anticipated that the 33 new residents added to the area upon project implementation would increase the use of parks and recreational uses such that deterioration would be accelerated or construction of expanded or new facilities would be necessary. Therefore, impacts are not considered significant.

Police (Sherriff's Office): Upon approval, the project site would need to be annexed into County Service Area 1, which includes enhanced police and fire services (funded by property tax and special taxes). Within this service area, the San Mateo County Sherriff's Department serves the site of the proposed project as a special service district from its facility in Redwood City. The Sherriff's Office also operates a substation within the Highlands neighborhood. This substation provides supplemental patrol services as well as facilitates access to community services for the area. Response times to the project site vary from 5 to 25 minutes depending on the type of call and location of the responding unit. Mutual assistance is also provided by the California Highway Patrol and the City of San Mateo. There are no plans to construct or expand the Sherriff's Office facilities. The Sherriff's Office has indicated that the addition of 11 single-family homes to the area is not expected to increase response times or require additional deputies to serve the site.[60] Therefore, impacts are not considered significant.

Fire Services: Upon approval, the project site would need to be annexed into County Service Area 1, which includes enhanced police and fire services (funded by property tax and special taxes). The California Department of Forestry and Fire Protection (Cal-Fire) is responsible for fire protection within this service area and in San Mateo County as it is designated as a State Responsibility Area (SRA) for the protection from wildland type fires. San Mateo County also contracts with Cal-Fire to provide structural fire suppression, life safety inspections, and medical emergencies to unincorporated portions of the County, which includes the project site. The nearest fire station to the project site is located approximately

59 San Mateo-Foster City School District, 2008.

60 San Mateo County Sherriff's Office, 2007.

1 mile south at 50 Paul Scannell Drive. A minimum of six firefighters are assigned to this station, 24 hours a day on a year-round basis. The County Fire Marshal has indicated that the proposed homes and their driveway access points would not significantly affect service to the project site. Additionally, no new staff, equipment, or stations would be required as a result of project implementation. Therefore, impacts are not considered significant.

Hospitals: The closest hospital is the San Mateo Medical Center, a County operated hospital. The administrative staff has indicated that due to the recent hospital renovation the existing capacity of the hospital could sufficiently accommodate the additional residents resulting from the project.[61] Additionally, it is not anticipated that all future residents of the proposed project would utilize this hospital. There are a variety of other facilities within San Mateo County that may be used depending on personal medical insurance, type of ailment, and personal preference. No capacity issues are expected at nearby hospitals as a result of project implementation. Therefore, impacts are not considered significant.

Public Utilities: The proposed project would connect to existing utility lines for electricity and natural gas, water, and storm drainage that exist on Ticonderoga Drive, Bunker Hill Drive, or run through the project site. The private companies and public agencies that administer ~~these services~~electricity, natural gas, and water have indicated that the proposed project could be accommodated by their existing services, and no issues with regard to need for expanded capacity or resources ~~is~~ are expected. ~~The City of San Mateo indicated that the current capacity of its wastewater treatment plant is 15.7 millions gallons per day (mgd). The current average flow that is received by the plant is approximately 12 mgd. This leaves a remaining capacity of 3.7 mgd. The proposed project would generate approximately 2,420 gallons per day. The additional wastewater flows would not create the need for an expansion of the wastewater treatment plant that would result in an environmental impact~~. For project impacts related to wastewater, please see Impacts UTIL-1 and UTIL-2.~~Therefore, impacts are not considered significant.~~

~~**Public Works:** The County Department of Public Works has indicated that the proposed project would not present any issues with regard to capacity of County operated sanitary sewer systems. Therefore, impacts are not considered significant.~~

- Generate any demands that will cause a public facility or utility to reach or exceed its capacity?

With the exception of wastewater collection system which is addressed under Impact UTIL-1, t~~T~~he proposed project would not generate any demands that will cause a public facility or utility to reach or exceed its capacity. Please see detailed discussion under previous question above.

61 San Mateo Medical Center, 2007.

- Be adjacent to or within 500 feet of an existing or planned public facility?

The closest public facilities to the project site are the California Department of Forestry Belmont station at 50 Paul Scannell Drive (formerly Tower Road) and the San Mateo County Youth Services Center is located at 222 Paul Scannell Drive south of the project site. Both of these public facilities are more than 500 feet from the southern project boundary.

- Create significant amounts of solid waste or litter or be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

According to the San Mateo County Housing Element, the average population for single-family residential units in the Highlands neighborhood is 2.97 persons per dwelling unit. The project would add approximately 33 persons to the area. Assuming a solid waste generation rate of 2.2 tons per year per residential unit, the amount of solid waste generated by the project would be approximately 24 tons per year.[62]

The Ox Mountain landfill has a permit from the California State Integrated Waste Management Board to operate until 2018, with a total permitted capacity of 35.9 million cubic yards. As of October 2008, the remaining capacity at the landfill was 28 million cubic yards (County of San Mateo 2009). The maximum daily waste tonnage that it is permitted to receive is 3,598 tons, which is approximately 1.3 million tons per year. The amount of waste (24 tons per year) generated by the proposed project on a yearly basis would represent less than 1 percent of the total amount of solid waste the landfill is permitted to accept.

As discussed above, the project would require approximately 2,2~~0~~00 cy of additional fill material that would be imported into the project site, and would potentially include small quantities of unusable fill that c~~w~~ould require off-site disposal. The maximum amount of materials would be diverted in all project phases per San Mateo County's Construction and Demolition Ordinance No. 04099, which requires that 100 percent of inert solids (i.e., asphalt, brick, concrete, dirt, etc.) and 50 percent of all other construction and demolition debris be salvaged, reused, or recycled. The solid waste associated with construction would be a one-time disposal and would not significantly affect landfill capacity. Therefore, the project during construction and occupancy is not expected to generate significant amounts of solid waste and any associated waste would be sufficiently accommodated by the Ox Mountain landfill.[63] Given this, impacts are not considered significant.

- Substantially increase fossil fuel consumption (electricity, oil, natural gas, coal, etc.)?

62 CIWMB, 2007.

63 Ox Mountain Landfill, 2008.

The proposed project would involve construction vehicles and private automobiles related to the proposed use on the site. Both construction vehicles and personal automobiles would require gasoline or diesel to operate. Due to the small number of homes that would be constructed, 11, the project would not result in a substantial increase in fossil fuel consumption in the project area. Therefore, no impact would occur.

- Require an amendment to or exception from adopted general plans, specific plans, or community policies or goals or conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project requires the following permits from San Mateo County: a major subdivision permit, a rezoning action, a resource management permit, and a grading permit. The proposed project would also require a lot line adjustment in order for the proposed residential lots to be consistent with adjoining properties, but would not require an amendment or exception to the San Mateo County General Plan.

The proposed project does not comply with the minimum front and side yard requirements of Section 6319B, Minimum Yards, of the Resource Management District (RM) zoning regulations. The section requires a minimum front yard of 50 feet and minimum side and rear yards of 20 feet. The section also requires a minimum distance of 30 feet between main and accessory buildings. The Project Applicant proposes 20-foot front and rear setbacks and 10-foot side setbacks. The proposed setbacks are more compatible with the urban zoning of the surrounding neighborhood, which carries a zoning of R-1/S-8 and requires front and rear setbacks of 20 feet and side setbacks of 5 feet. The Project Applicant has included a request for a Zoning Text Amendment to the RM District Zoning regulations that, if adopted, would allow the reduced setbacks for the proposed project and other projects that preserve open space. The Zoning Text Amendment is evaluated in this EIR for its potential environmental impacts (see **Section 4.5, Resource Management District Zoning Text Amendment**) and the analysis shows that the reduced setbacks allowed by the Zoning Text Amendment will not result in significant environmental impacts. There are no other applicable specific plans, or community policies or goals that apply to the project site. Therefore, ~~no impact would occur~~this impact is considered less than significant.

- Involve a change of zoning?

The ~~A~~ portion of lots 9 and 10 under RM zoning would be rezoned from RM to R-1/S-81~~ or rezoned from RM to R-1/S-81~~. This rezoning would allow for the establishment of new boundaries for lots 9 and 10, which would facilitate the development of lots 9 and 10 through the subsequent subdivision discussed below. The rezoning from R-1/S-8 to RM of the approximately 2,200 square foot portion of the larger parcel (APN 041-101-290) is also proposed, to make its zoning consistent with the remainder of the

approximately 92.46-acre RM parcel. Therefore, the proposed project would involve a minor zoning change for consistency purposes. However, the majority of the site would remain zoned as RM and the project would be consistent with proposed zoning. Therefore, impacts to zoning would be less than significant.

- Require the relocation of people or businesses or displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Project implementation would result in the development of 4.53 acres of undeveloped land into residential homes. The site is currently undeveloped and would not displace any individuals or existing homes as a result of project implementation. Therefore, no impact would occur.

- Reduce the supply of low-income housing?

The proposed project would not remove any existing units of low-income housing from the supply that currently exists within the County. Therefore, no impact would occur.

- Result in possible interference with an emergency response plan or emergency evacuation plan or impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The County does not have a specific adopted emergency response plan or evacuation plan. Project implementation would not change the circulation or configuration of the existing roadways. Access to the project site would be provided by the existing roadways. Therefore, no impact would occur.

- Result in creation of or exposure to a potential health hazard?

Occupancy of the project would have activities associated with single-family homes occurring on a regular basis. There would be vehicle trips associated with the homes as well as storage of belongings and equipment typical for residential purposes. It is not expected that these homes would create or expose existing or future residents to health hazards. Therefore, no impact would occur.

- Physically divide an established community?

The project site is undeveloped open space. The project would construct single-family homes along existing roadways and fill in areas where there is a gap in existing single-family homes. Specifically, homes planned along Ticonderoga Drive would extend to the east from where the existing neighborhood currently ends and homes along Cowpens Way and Cobblehill Place would continue along an already developed street. There is a gap along Bunker Hill Drive where the proposed project would add single-family homes in-line with existing uses, which occur to the west and east of the proposed area for

development. The proposed project would add a small number of residential homes to an already established community. The location of these homes would not separate established land uses or neighborhoods. For these reasons, the project would not physically divide an established community. Therefore, no impact would occur.

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

As discussed previously, it is not anticipated that the 33 new residents added to the area upon project implementation would increase the use of parks and recreational uses such that deterioration would be accelerated or construction of expanded or new facilities would be necessary. Therefore, impacts are not considered significant.

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The proposed project does not include any public parks or recreational uses.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project would generate wastewater from 11 single-family residential units. No other uses are proposed for the site. Wastewater associated with residential land uses is not expected to exceed wastewater treatment requirements set by the San Francisco Bay Regional Water Quality Control Board (Board). The permit issued by the Board for the San Mateo Wastewater Treatment Plant allows for the treatment and disposal of residential wastewater. No disposal of hazardous or atypical substances is expected to occur at the proposed homes. Therefore, the project would comply with applicable regulations and this impact is considered less than significant.

~~•Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?~~

~~The City of San Mateo operates the wastewater treatment plant and analyzes flow that is anticipated to enter the facility. An Environmental Impact Report was prepared for the wastewater treatment plant in 1990. That document recommended additional capacity be added to the plant to accommodate future anticipated growth in the area. The treatment plant was expanded in 1998 and the capacity was increased to 15.7 mgd. An additional capacity study was conducted by the City of San Mateo in 2000 as part of its Sanitary Sewer Agreement with the Town of Hillsborough and the Crystal Springs County Sanitation District. The study found that the wastewater treatment plant capacity would be sufficient to accommodate future cumulative growth in the three jurisdictions. However, improvements would be needed to the sewer lines that convey wastewater to the plant. Given the above, the wastewater treatment~~

~~plant has the capacity to accommodate future growth in the area including the development of the proposed project. Therefore, impacts are not considered significant.~~

- ~~Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?~~

~~The proposed project consists of the development of 11 residential units, which would result in a minor increase in storm water runoff. The storm water runoff would be directed to bioretention planters where some of it would be absorbed by the plants and soil, and it would be filtered and then piped out from the bottom of the planter (box) to existing drainages south of Bunker Hill Drive or to the established street drainage system along Ticonderoga Drive (where appropriate). Therefore, the proposed project would not require the construction of new storm water drainage facilities and impacts are not considered significant.~~

- Comply with federal, state, and local statutes and regulations related to solid waste?

Solid waste generated by the project would be disposed of at the Ox Mountain Landfill, which is operated by BFI/Allied Waste Systems. As described above, San Mateo County's Construction and Demolition Ordinance No. 04099 requires that 100 percent of inert solids (i.e., asphalt, brick, concrete, dirt, etc.) and 50 percent of all other construction and demolition debris from the proposed project be salvaged, reused, or recycled. The proposed project would generate approximately 24 tons per year of solid waste. The proposed homes would provide adequate space for waste/recycling containers. The type of waste associated with residential uses is typically does not contain substantial amounts of hazardous of toxic materials. San Mateo County has a Household Hazardous Waste program for proper disposal of potentially toxic items such as paint and oil. The Ox Mountain landfill operates with a permit from the California Integrated Waste Management Board to accept waste associated with residential uses. Because the project would comply with all applicable regulations, impacts related to solid waste disposal would be less than significant.

4.4.3.7 Aesthetic, Cultural and Historic

Would the project:

- Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is located approximately 0.5 mile from Interstate 280, which is designated as a State Scenic Highway. However, the project site is not visible from the Interstate, and would therefore not impact the existing scenic views. The project site is not within a County Scenic Corridor. The closest road that is

designated a scenic route in the San Mateo County General Plan is Polhemus Road. Because the areas of the project site proposed for development are not visible from Polhemus Road due to the topography of the project site, the County Scenic Corridor would not be affected by the project site. Therefore, no impact would occur.

- Involve the construction of buildings or structures in excess of three stories or 36 feet in height?

None of the residential homes proposed for construction would exceed 36 feet in height. The homes located along Bunker Hill Drive would be between 12 and 14 feet high from street level. The tallest homes would be located on Ticonderoga Drive and would have a height between 28 and 30 feet, depending on the location of the second story rooflines and gables. Therefore, no proposed residential dwelling unit would exceed 36 feet in height and no impact would occur.

- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

The development of open space with residential land uses would create new sources of light and glare. Structures, including residential homes and surface driveways would be developed on the site. Typical residential lighting that occurs at night would occur with project implementation. However, these new sources are not anticipated to affect day and nighttime views in the area, given that the type of lighting associated with the proposed project would be similar to the existing residential neighborhood. For these reasons, the introduction of new sources of light and glare with project development would not substantially intrude upon day or nighttime views in the project area. Therefore, this impact is considered less than significant.