

THE AVENUE SPECIFIC PLAN AMENDMENT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

5.0 Cumulative Impacts

CEQA mandates that an EIR evaluate potential cumulative impacts. A cumulative effect is deemed significant if there is presently a significant cumulative impact and this Project's incremental contribution is "cumulatively considerable." A cumulative impact is not considered significant if the impact can be mitigated to below the level of significance through mitigation measures, including providing improvements and/or contributing funds through fee-payment programs. The EIR must examine "reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects (CEQA Guidelines Section 15130(b)(5))."

CEQA Guidelines Section 15130(b) outlines the discussion of cumulative impacts. In general, the EIR should examine the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the other identified projects contribute rather than the attributes of other projects which do not contribute to the cumulative effect. The cumulative impacts analysis can be based on one of the following methods or a combination of both methods:

- A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

Cumulative impacts are discussed using a combination of the first and second methods. *Table 5-1* lists the proposed Projects in the Project vicinity. This discussion also considers the New Model Colony General Plan projections in evaluating cumulative impacts.

Table 5-1 List of Related Projects

NMC Subarea	Project Name, Applicant, Size	Land Use
4	Armstrong Ranch Hillcrest Homes, Strathan Homes, Pacific Communities, Richland Communities 433 acres	Residential 11,616 SFR Commercial (10 acres) Elementary School Neighborhood Park
5	Countryside Specific Plan	Low Density Residential

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	Meritage Homes 178 acres	819 SFR Open Space (10 acres)
6, 12	West Haven Specific Plan Stratham Homes, Centex Homes, Richland Communities 199 acres	Residential 753 SFR Commercial (10 acres) Elementary School Neighborhood Park
6, 12, 19	Rich-Haven Specific Plan Richland Communities 510 acres	Residential 2,109 SFR 1,550 MFR Commercial (848,400 SF) Middle School (25 acres)
7	Edenglen Specific Plan Brookfield Homes 160 acres	Residential 277 SFR 307 MFR Commercial (20 acres) Business Park/Light Industrial (40 acres)
22	Parkside Specific Plan Lewis Operating Companies 250 acres	Residential 438 SFR 1,509 MFR Commercial (15 acres) Park and Trails (50 acres)
23	Grand Park Specific Plan Richland Communities, Hillcrest Homes 320 acres	Residential 389 SFR 729 MFR Commercial (15,000 SF) High School Elementary School Parks (150 acres)
25	Esperanza Specific Plan Amberhill Development, Armada LLC 223 acres	Residential 914 SFR 496 MFR Elementary School (10 acres) Parks (9 acres)
29	Park Place – Subarea 29 (formerly Hettinga Specific Plan) 223 acres	Residential 2,293 SFR Elementary School (10 acres) Parks (9 acres)
N/A	The Preserve, City of Chino Various applicants 5,435 acres	Residential 8,757 dwelling units Commercial includes retail, neighborhood, community, and regional (899,900 SF) Office (324,500 SF) Motel (200 rooms) Light Industrial (4,608,200 SF) Educational Public Facility (20 acres) Parks (423 acres)
N/A	Eastvale, County of Riverside	Residential

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	(unincorporated area) Various applicants	17,221 dwelling units Educational Public Facility (20 acres) Parks (115 acres)
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5.1 CUMULATIVE IMPACT ANALYSIS

The following is an analysis of cumulative impacts resulting from the issues which required changes from the previously certified FEIR.

5.1.1 Air Quality

The project is located in a portion of the SCAB which is designated as non-attainment for ozone, PM₁₀, and PM_{2.5}. The results of the air quality analysis indicate that the air quality impacts for the proposed project are significant on an individual project basis. Therefore, it is appropriate to conclude that the Project in combination with other projects in the area would contribute to a cumulatively considerable net increase in criteria pollutants resulting in a significant cumulative impact on air quality.

Global Climate Change

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the Earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial issues in the United States, and much debate exists within the scientific community whether or not GCC is occurring naturally or as a result of human activity. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases (GHG) in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of GHG resulting from human activity and industrialization over the past 200 years.

Regulatory Setting

Due to Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, it is important to address greenhouse gas emissions from this Project and how it could potentially affect climate change. Greenhouse gases (GHG's) are those gases that trap heat within the atmosphere such as water vapor, Carbon Dioxide (CO₂), Nitrous Oxide (N₂O), Methane (CH₄), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF₆). Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61° Fahrenheit cooler than it is currently. The cumulative accumulation of these gases in the Earth's atmosphere, due to both natural and anthropogenic (human) sources, is considered to be the cause for the observed increase in the Earth's temperature. AB 32 puts a cap on the greenhouse gases released by anthropogenic sources in the State of California equal to those emitted in 1990.

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On October 17, 2007, the California Air Resources Board (CARB) published the “Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California,” which outlines recommendations for early action measures to reduce GHG emissions. CARB estimates that implementation of the 44 early action measures outlined in the report may result in a reduction in GHG emissions of approximately 42 million metric tons of CO₂ equivalent greenhouse gases.

In December 2007, CARB established the 1990 statewide GHG emissions level at 427 teragrams (Tg) CO₂ equivalent GHG, which, as required under AB 32, is the GHG emissions level which shall be achieved by 2020. One Tg is equivalent to One Million Metric Ton. GHG emissions in California for 2004 were estimated at 492 Tg CO₂ equivalent (CEC 2006). According to preliminary estimates, 2020 emissions projections could reach 600 million metric tons of CO₂ equivalent GHG if no reduction measures are taken.

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) published “CEQA and Climate Change,” which considers and evaluates numerous approaches to addressing greenhouse gas emissions under CEQA. However, due to pending litigation in various state and federal courts and active federal legislation, many legal and policy questions regarding global warming and GHG emissions remain unsettled. This document is currently intended only to be a resource and does not provide regulatory guidance.

Additionally, in June 2008, the OPR released the technical advisory “CEQA and Climate Change: Addressing Climate Change Through CEQA Review.” In this document, OPR provides interim guidance on how climate change should be addressed in CEQA documents until the CEQA Guidelines are amended on or before January 1, 2010 (pursuant to SB 97).

GHG Emissions Inventory

Each year, the U.S. EPA prepares an inventory of national GHG emissions in order to track emissions trends and compare data on a global level. In the United States, the most abundant GHG emitted by human activity is carbon dioxide, comprising approximately 85 percent of total GHG emissions. Methane emissions, which are associated with livestock and waste decomposition, have steadily declined since 1990. Nitrous oxide emissions, produced by agricultural processes and motor vehicle exhaust, have decreased slightly since 1990. Overall, GHG emissions in the United States have risen by 16.3 percent between 1990 and 2005.

Although California’s rate of growth of GHG emissions is slowing, the state is still a substantial contributor. In 2004, the state produced an estimated 492 million gross metric tons of carbon dioxide equivalent GHG emissions. It should be noted however that between the years of 1990 and 2004, California’s population increased by 16 percent while the growth of GHG emissions slowed by 9.7 percent. Much of this reduction in GHG emissions can be attributed to energy conservation measures in residential and commercial buildings and appliances implemented under Title 24 of the California Building Code.

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Based on the CEC's estimates, California's residential and commercial sectors are already in compliance with the goals set by AB 32 to reduce GHG emissions to 1990 levels, as presented in *Table 5-2*.

Table 5-2 California Greenhouse Gas Emissions (Tg CO₂ Equivalents)

	1990	2004
Residential	28.97	27.86
Commercial	12.65	12.19
Source: California Energy Commission, Greenhouse Gas Inventory, Dec. 2006		

Building related energy consumption was further reduced by the 2005 Building Energy Efficiency Standards, which apply to new residential and commercial construction. The CEC estimates that these new standards will reduce energy consumption for nonresidential buildings by 8.3 percent. Compliance with these updated California Building Code Title 24 standards will not only reduce energy consumption and costs, but will further reduce emissions of GHG when compared to older construction.

Water use efficiency is another measure through which GHG emissions can be reduced. According to the California Climate Action Team Report, "19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute, and use water and wastewater. When a unit of water is saved, so too is the energy required to convey, treat, affect local delivery, perform wastewater treatment, and safely dispose of that unit of water." The reduced energy use resulting from water conservation leads to reduced GHG emissions.

Due to the global nature of climate change, it is unlikely that GHG emissions resulting from any single project are likely to have a significant impact on overall climate change. Instead, GHG emissions from the proposed project would combine with GHG emissions emitted across California, the United States, and the world to cumulatively contribute to GCC.

Project Emissions

GHG emissions associated with the development and operation of the proposed Project were estimated for the following five categories: (1) increases in emissions from short-term construction activity (fossil-fuel consumption); (2) increase in emissions from electricity generation to provide power to project uses; (3) increase in emissions from natural gas use for project uses; (4) increase in emissions from water consumption for project uses; and (5) increase in emissions from vehicular-exhaust emissions from daily vehicular activity as a result of the project.

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For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated. Although other substances, such as fluorinated gases, also contribute to GCC, sources of fluorinated gases are not well defined and no accepted emissions factors or methodology exist to accurately calculate these gases.

GHG have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1. The following table shows GWP values for carbon dioxide, methane and nitrous oxide. The GWP values are used as multipliers to determine carbon dioxide equivalent values.

Table 5-3 Global Warming Potential Values and Atmospheric Lifetimes

Greenhouse Gas	Global Warming Potential (100 year time horizon)	Atmospheric Lifetime (Years)
Carbon Dioxide	1	50-200
Methane	21	12+/-3
Nitrous Oxide	310	120
Source: EPA 2006 (URL: http://www.epa.gov/nonco2/econ-inv/table.html)		

The following table shows emissions calculations for the construction phase of the Project.

Table 5-4 Construction Greenhouse Gas Emissions

Construction Activity	CO ₂	N ₂ O		CH ₄	
	lbs/day	lbs/day	lbs/day CO ₂ EQ	lbs/day	lbs/day CO ₂ EQ
Demolition					
Off-Road Equipment	15,346.11	0.40	123.99	1.83	38.48
Haul Trucks	9,431.90	4.87	1,508.51	0.36	7.65
Worker Commute	1,575.32	0.50	154.63	0.10	2.10
Grading					
Off-Road Equipment	64,930.28	1.69	524.38	7.03	147.53
Haul Trucks	13,979.88	6.77	2,098.69	0.51	10.63
Worker Commute	6,304.42	1.88	582.55	0.37	7.77
Underground Utility Construction					
Off-Road Equipment	16,581.20	0.49	152.05	2.15	45.05
Worker Commute	3,324.21	0.83	257.69	0.17	3.50
Paving					
Off-Road Equipment	32,879.90	0.97	301.20	4.04	84.85
Worker Commute	5,347.65	1.34	414.55	0.27	5.63
Building Construction/Architectural Coating					
Off-Road Equipment	4,425.94	0.13	38.97	0.51	10.80
Worker Commute	3,035.15	0.76	235.29	0.15	3.20
Total (Entire Avenue Specific Plan Project)	177,161.96	20.62	6,392.51	17.49	367.20

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Source: Urban Crossroads, Inc. 2008

Recommended measures to reduce GHG emissions during project construction activity are presented in Section 4.1.6 of this SEIR. Although these construction mitigation measures are proven to reduce criteria pollutant emissions, their effectiveness to reduce GHG emissions is not known at this time, and mitigation measures to reduce GHG emissions resulting from construction activity are generally not available at this time.

Table 5-5 shows emissions calculations for the operational phase of the Project.

Table 5-5 Operational Greenhouse Gas Emissions (metric tons per year)

Scenario	Source	CO ₂	N ₂ O		CH ₄	
		mtpy	mtpy	mtpy CO ₂ EQ	mtpy	mtpy CO ₂ EQ
Original Project	Mobile Source Emissions	54,000.23	2.49	772.10	3.52	73.95
	Energy Use Emissions	7,273.86	0.0662	20.53	0.298	6.26
	Water use Related Emissions	1,576.10	0.0143	4.45	0.0646	1.36
	Natural Gas Emissions	6,408.43	0.117	36.42	0.123	2.58
	<i>Total (mtpy)</i>	<i>69,258.62</i>	<i>2.69</i>	<i>833.50</i>	<i>4.01</i>	<i>84.14</i>
	<i>Total (Teragrams CO₂ Equivalent)</i>	<i>0.0702</i>				
Increase in residential units and commercial space alone	Mobile Source Emissions	5,499.94	0.254	78.69	0.359	7.53
	Energy Use Emissions	1,191.30	0.0108	3.36	0.0488	1.02
	Water Use Related Emissions	195.59	0.00178	0.55	0.00801	0.17
	Natural Gas Emissions	893.99	0.0164	5.08	0.0171	0.36
	<i>Total (mtpy)</i>	<i>7,780.16</i>	<i>0.28</i>	<i>87.68</i>	<i>0.43</i>	<i>9.08</i>
	<i>Total (Teragrams CO₂ Equivalent)</i>	<i>0.0079</i>				
Total Project (mtpy)		77,038.79	2.97	921.18	4.44	93.22
Total Project (Teragrams CO₂ Equivalent)		0.0781				

It is estimated that the proposed project (including the incremental increase in project land uses) would result in approximately 78,053.19 metric tons (0.0781 Tg) of CO₂ Eq. emissions, which represents approximately 0.01586 % of California's 2004 total CO₂ emissions. It should be noted that the reduction in GHG emissions resulting from implementation of the recommended emissions reduction measures and project design features is not known at this time, and thus, implementation of the recommended emissions reduction measures will likely further reduce GHG emissions beyond what is presented in Table 5-5.

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Thresholds of Significance

As indicated in section 15064(b) of the State CEQA Guidelines, the determination of significance of greenhouse gases is not “ironclad;” rather, the “determination of whether a project may have a significant effect on the environment calls for a careful judgment” by the City “based to the extent possible on scientific and factual data.” The City of Ontario has not yet adopted a numeric threshold of significance for emissions of greenhouse gases. The analysis below sets out the factual bases for the City’s determination regarding the effect of greenhouse gases. This analysis is specific to this project, however, and may not necessarily apply to other projects within the City of Ontario.

It should be noted that CARB and the SCAQMD are currently in the process of establishing CEQA GHG significance thresholds. Both agencies are in the preliminary “working group” stages of developing GHG significance thresholds, although no formal guidance that would be applicable to this project has been adopted. Both agencies have provided draft interim thresholds for discussion purposes. It is important to note that any significance threshold formally adopted by the SCAQMD would apply to projects located within the district, while any CARB significance threshold would apply to projects located within the state.

CARB is currently in the process of establishing a statewide CEQA Climate Change emission threshold for industrial, residential, and commercial projects. CARB’s preliminary draft staff proposal was released for public review on October 24, 2008. CARB also held a public workshop to discuss the draft proposal on October 27, 2008 and December 9, 2008. The current schedule has CARB adopting an interim threshold by January 22, 2009. A summary of CARB’s proposed thresholds under consideration are summarized in *Appendix B-2, Table 5*.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 MT CO₂eq/yr. As part of the Interim GHG Significance Threshold development process for industrial projects, the SCAQMD established a working group of stakeholders that also considered thresholds for residential/commercial projects. As discussed in the Interim GHG Significance Threshold guidance document the focus for residential/commercial projects is on performance standards and a screening level threshold. For discussion purposes, the SCAQMD’s working group considered performance standards primarily focused on energy efficiency measures beyond Title 24 and a screening level of 3,000 MT CO₂eq/yr based on the relative GHG emissions contribution between residential/commercial sectors and stationary source (industrial) sectors. The working group and staff ultimately decided that additional analysis was needed to further define the performance standards and to coordinate with CARB staff’s interim GHG proposal. Staff, therefore, did not recommend action for adopting an interim threshold for residential/commercial projects but rather recommended bringing this item back to the Board for discussion and possible action in March 2009 if the CARB board does not take its final action by February 2009.

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The project's potential for creating an impact on global warming is based partly on a comparative analysis of the project against the emission strategies contained in the California Climate Action Team (CAT)'s Report to the Governor. Implementation of the CAT strategies will likely reduce GHG emissions to the extent possible; however, it is not possible to specifically quantify the reduction in GHG that will result from implementation of CAT strategies and programs. *Table 5-6* includes a summary of the Project's compliance with applicable CAT strategies which are expected to reduce the Project's GHG emissions.

Table 5-6 Project Compliance with Applicable 2006 CAT Report Greenhouse Gas Emissions Reduction Strategies

Strategy	Project Compliance
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	Compliant. Vehicles that will access the project site will be in compliance with CARB vehicle standards to the maximum extent feasible.
Other Light Duty Vehicle Technology New standards would be adopted to phase in beginning in the 2017 model.	
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Compliant. This is a regulatory requirement. Heavy-duty diesel trucks that access the project site will be required to limit idling to no more than five minutes in any location.
Achieve 50 percent Statewide Recycling Goal Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	Compliant. Project design will include provisions for residents to recycle.
Zero Waste - High Recycling Additional recycling beyond the State's 50 percent recycling goal.	
Urban Forestry A new statewide goal of planting 5 million trees in	Compliant. The implementation of the proposed project will

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urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	result in the planting of additional trees and vegetation at the project site.
Afforestation/Reforestation Projects Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	
Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Compliant. The project shall implement U.S. EPA Certified WaterSense labeled or equivalent faucets and high-efficiency toilets (HETs), and implement water-conserving shower heads to the extent feasible.
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.	Compliant. The proposed project contains a mix of uses, and is placing development adjacent to a transportation corridor and near homes which can limit worker commute trips.
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.	Compliant. With implementation of the project design features, the project is expected to reduce energy use. Additionally, the project will be consistent with energy standards required by Title 24 or better.
California Solar Initiative Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	Compliant. Recommended project design features include a provision that buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar energy systems as is economically and physically feasible.
Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Compliant. Project will include low flow fixtures where possible.
Building Energy Efficiency Standards in Place	Compliant.

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<p>and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).</p>	<p>Project will be compliant with updated Title 24 standards for building construction.</p>
<p>Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).</p>	<p>Compliant. Appliances purchased for use in project will be consistent with existing energy efficiency standards.</p>

In addition to assessing the Project's consistency with CAT strategies and programs, a comparison of the project's emissions to the draft interim thresholds under consideration by CARB and SCAQMD has been conducted to assist the City in determining whether the Project's greenhouse gas emissions are cumulatively considerable.

Although the SCAQMD is deferring action on the proposed 3,000 metric tons of CO₂ Eq/year until CARB establishes an interim statewide threshold, it is likely that the proposed project's emissions will exceed any proposed numerical threshold established by the SCAQMD and therefore a significant cumulative impact to climate change is expected.

Although CARB's interim draft thresholds establish a numeric value only for industrial projects and currently they do not define the "upper limit on project emissions" numerically, it is anticipated that the CARB upper limit project emissions for residential/commercial projects would fall within the general range of the proposed industrial project numerical threshold of 7,000 metric tons of CO₂ Eq/year and the CARB mandatory reporting requirement for industrial projects of 25,000 metric tons of CO₂ Eq/year. Given that the proposed project will generate approximately 78,053.19 metric tons (0.0781 Tg) of CO₂ Eq per year the determination that the project will exceed the proposed upper limit can be made and a significant cumulative impact to global climate change is expected. It should be noted however that the proposed Project is consistent with some of the general performance standards identified by CARB and SCAQMD, listed in *Appendix B-2, Table 5*.

The Project will also implement the following applicable GHG reduction measures as recommended by the California Attorney General's Office in the document Addressing Global Warming Impacts at the Local Agency Level.

Mitigation Measure AQ-21:

The Project will implement the following measures as Project design features in order to reduce the Project's impact on global climate change:

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Energy Efficiency

- Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.
- Install light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Provide information on energy management services for large energy users.
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems.
- Install light emitting diodes (LEDs) for traffic, and other outdoor lighting.
- Limit the hours of operation of outdoor lighting.
- Provide education on energy efficiency.

Renewable Energy

- Install solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives.

Water Conservation and Efficiency

- Create water-efficient landscapes.
- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
- Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.
- Restrict the use of water for cleaning outdoor surfaces and vehicles.
- Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site.)
- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.
- Provide education about water conservation and available programs and incentives.

Solid Waste Measures

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.
- Provide education and publicity about reducing waste and available recycling services.

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Significance Determination

Because mitigation measures to reduce GHG emissions resulting from construction activity are not proven and remain under investigation at this time, no reduction in construction activity GHG emissions was taken in this evaluation and the Project is expected to have a significant cumulative impact on GCC.

As previously indicated, the Project contains both residential and commercial/retail uses, which reduces vehicle miles traveled. Since a large proportion of greenhouse gases are generated through vehicle emissions, a reduction in vehicle miles traveled will result in a reduction in GHG emissions.

It should also be noted that The Avenue Specific Plan will provide pedestrian and bicycle facilities to interconnect with other NMC trail systems. Internal project streets will be constructed with pedestrian friendly streets to interconnect all portions of the project area and all surrounding uses. These pedestrian and bicycle facilities will also help reduce GHG emissions by reducing the number of vehicle trips and vehicle miles traveled.

It is conservatively estimated that inclusion of these design features will yield a net reduction in Project GHG emissions. However, for the purposes of this evaluation, no reduction in GHG emissions was taken and the Project is expected to have a significant cumulative impact on GCC.

5.1.2 Biological Resources

Given the current degradation of the existing habitat onsite, development impact fees will help acquire, at least, an equivalent or greater level of habitat. The proposed Project will be required to pay these fees. Cumulative loss of habitat is therefore considered less than significant.

Cumulative impacts to the direct loss of species are reduced to less than significant levels with the implementation of Mitigation Measures listed in the previously approved FEIR and in this SEIR and through consultation with the appropriate regulatory agencies as necessary.

5.1.3 Land Use and Planning

The uses proposed by the Project would be consistent with the uses planned for in the New Model Colony General Plan and were analyzed in the New Model Colony General Plan EIR. Development of the project would not result in cumulative impacts.

5.1.4 Noise

Cumulative increases in traffic noise levels along roadways in the Project vicinity were estimated by comparing the Year 2030 With Project scenario, which accounts for projected

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growth within the New Model Colony, to existing conditions. Noise levels are expected to increase up to 10.6 dBA CNEL, as shown on *Table 5-7*, with the development of the proposed project and all other traffic growth projected for Year 2030.

Table 5-7 Year 2030 Cumulative Off-site Traffic Noise Levels

Road	Segment	CNEL at 100 Feet (dBA)		Increase	Significant Impact?
		Existing	With Project		
Archibald Avenue	Chino to Schaefer	65.2	69.1	3.9	Yes
Archibald Avenue	n/o Chino	65.4	68.9	3.4	Yes
Archibald Avenue	s/o Edison	65.8	71.5	5.6	Yes
Chino Avenue	e/o Archibald	58.6	63.4	4.8	Yes
Chino Avenue	e/o Haven	-	63.5	-	-
Chino Avenue	w/o Archibald	57.4	63.1	5.7	Yes
Chino Avenue	w/o Haven	-	62.7	-	-
Edison Avenue	Archibald to Haven	61.6	70.1	8.5	Yes
Edison Avenue	e/o Hamner	-	71.6	-	-
Edison Avenue	e/o Haven	60.6	71.2	10.6	Yes
Edison Avenue	Haven to Mill Creek	-	70.7	-	-
Edison Avenue	Helman to Archibald	62.4	70.4	8.0	Yes
Edison Avenue	Mill Creek to Hamner	-	71.2	-	-
Haven Avenue	Chino to Schaefer	-	67.4	-	-
Haven Avenue	n/o Chino	-	67.2	-	-
Haven Avenue	s/o Edison	-	66.7	-	-
Haven Avenue	Schaefer to Edison	-	66.1	-	-
Mill Creek Road	n/o Edison	-	62.1	-	-
Mill Creek Road	s/o Edison	-	62.4	-	-
Milliken Avenue	n/o Edison	63.8	69.9	6.1	Yes
Milliken Avenue	s/o Edison	63.9	69.5	5.6	Yes
Schaefer Avenue	Archibald to Turner	-	61.0	-	-
Schaefer Avenue	Helman to Archibald	-	62.4	-	-
Schaefer Avenue	Turner to Haven	-	60.4	-	-
Source: Urban Crossroads					

Based on the standard of noise levels in excess of 3 dBA CNEL being considered significant, there are multiple segments within the Project vicinity that will increase by more than 3 dBA CNEL; therefore, cumulative noise impacts would be considered significant. As stated in the previously approved FEIR, no feasible mitigation is available that will reduce cumulative noise impacts to less than significant levels. However, mitigation measures will be implemented throughout the New Model Colony to reduce the impact of noise to the extent feasible.

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5.1.5 Population and Housing

The proposed Project would introduce residential uses in the area which would increase the amount of population in the City. The Project, when considered with other projects in the area, would result in cumulative impacts on population and housing in the area. However, the City has anticipated this growth and has planned for it in the City's General Plan and the New Model Colony General Plan. Furthermore, the additional facilities included in the proposed Project would help accommodate the City's housing needs and improve the City's jobs/housing balance; therefore the Project's impact would not be cumulatively considerable.

5.1.6 Public Services

The proposed Project would introduce new residents and businesses which would require public services. However, the Project, as well as all other new projects, would be subject to the payment of development impact fees in order to maintain fire, police, school and library services and facilities. The Project would not have a significant cumulative impact on these services.

5.1.7 Recreation

The proposed Project would introduce new residents which would result in increased usage of parks and recreational facilities in the City. The Project, along with other new projects in the area, would result in cumulatively considerable impacts on parks and recreational facilities. By City policy, new residential developments are required to provide parks and recreational facilities either through dedication of land or payment of fees in lieu of dedication to meet the needs of future residents. With payment of park fees or land dedication, the Project would have a less than significant cumulative impact on parks and recreational facilities.

5.1.8 Transportation and Traffic

The Project would cause an increase in traffic on area roadways, due to the addition in residential units and commercial space. The Project would not contribute to unacceptable levels of service at area intersections or roadways; however, the Project, along with other new projects in the area, would contribute to cumulatively considerable impacts on area roadways and intersections. The Project would be required to pay its fair share contribution to the City's Development Impact Fee program. This fair share contribution would reduce cumulative impacts to a less than significant level.

Regional Roadway Networks

During the scoping process for the current Traffic Impact Study, the City determined that only those intersections that were analyzed in the Traffic Impact Study prepared for the previously approved FEIR which could have significant impacts would be studied in the current Traffic Impact Study. The NMC EIR evaluated regional traffic impacts, and all specific plan EIRs in the

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NMC area, including The Avenue Specific Plan SEIR, are tiering from the NMC EIR. CEQA Guidelines Section 15152 (f) (1) states, "Where a lead agency determines that a cumulative effect has been adequately addressed in the prior EIR, that effect is not treated as significant for purposes of the later EIR or negative declaration, and need not be discussed in detail." Accordingly, the EIR need not further discuss impacts to regional roadway networks.

5.1.9 Utilities and Service Systems

The proposed Project would result in an increase in demand for water, wastewater, solid waste and energy services. However, with the exception of solid waste disposal, these services are adequately planned for and would have adequate infrastructure to serve the Project and surrounding area. In the case of solid waste disposal, the Project's contribution of solid waste along with other Projects in the City would result in cumulatively considerable impacts.