5.0 OTHER CEQA-REQUIRED DISCUSSIONS

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4.0, *Environmental Impact Analysis*. These additional issues include: (1) the potential to induce growth; (2) significant and irreversible impacts on the environment; and (3) global climate change.

5.1 GROWTH INDUCING EFFECTS

5.1.1 Economic and Population Growth

The *CEQA Guidelines* require a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. Growth-inducing potential are therefore considered significant if growth could result in significant physical effects in one or more environmental issue areas. The most commonly cited example of how an economic effect might create a physical change is where economic growth in one area could create blight conditions elsewhere by causing existing competitors to go out of business and the buildings to be left vacant for extended periods.

Onsite development involves a General Plan amendment, zone change and other necessary approvals to allow for the development of mixed retail, office, community space, creative live/work units and residential development. Although no specific development is proposed at this time, it is anticipated that the project site could accommodate a maximum of 1.2 million square (sf) feet of floor space.

Onsite development would include demolition of the existing public parking lot and approximately 19,500 square foot (sf) office building. This would generate temporary employment opportunities during construction, which would draw workers from the existing regional workforce. As shown in Table 5-1, it is expected that employment associated with operation of the commercial components of onsite development would generate approximately 1,711 employees. It is expected that employment opportunities associated with operation of the project would draw workers from the existing regional workforce.

Table 5-1
Anticipated Employment Density

Land Use	Amount	Square Feet per Employee	Employees
Other Retail/Svc.	243,750 sf	424	575
High-Rise Office	500,000 sf	440	1,136
		Total employees	**1,711**

Source: Natelson Company, Inc., Employment Density Study, 2001, http://www.mwcog.org/uploads/committee-documents/bl5aX1pa20091008155406.pdf.

As shown in Table 5-1, 243,750 sf of retail and service uses on the project site would generate an estimated 575 employees and 500,000 sf of office uses on the site would generate an estimated 1,136 employees. These land uses would therefore generate approximately 1,711 employees on the project site. Onsite development would provide a mix of jobs and housing on the site. Housing on the project site would include 528 residential units. Because the jobs and housing on the project site would be balanced, onsite development would not be growth-inducing with respect to jobs and the economy.

Based on the average household size of 2.965 persons in the City of Los Angeles (California Department of Finance, 2009), the proposed net increase of 528 residential units would generate a net population increase of approximately 1,566 persons. As discussed in the item XII, *Population and Housing*, of the Initial Study (see Appendix A), the Southern California Association of Governments (SCAG) 2008 Integrated Growth Forecast estimates that the residential population of the area will increase to 4,128,125 people by 2015 (an increase of approximately 1.5%). Additionally, the SCAG Integrated Growth Forecast estimates that the number of housing units in the area will increase to 1,424,701 units by 2015 (an increase of approximately 1%). Development on the project site could add up to 528 residential units to the City, which constitutes approximately 3% of the projected growth for housing units in the City of Los Angeles by 2015. Based on the 2009 residential population and number of housing units in the City, there are approximately 2.89 persons per household. Therefore, onsite development would generate approximately 1,526 new residents. The estimated residential population generated by onsite development would constitute approximately 2.5% of the projected population growth in the City of Los Angeles by 2015. The proposed number of housing units and subsequent increase in population generated by onsite development would be within the established forecasts for the City of Los Angeles. Therefore, growth inducing impacts relating to population growth would be less than significant.

Mitigation Measures. None required.

5.1.2 Removal of Obstacles to Growth

The project site is located in a fully urbanized area that is well-served by existing infrastructure. Minor improvements to water, sewer, and circulation systems and drainage connection infrastructure could be needed, but would be sized to specifically serve onsite development. A road extension would be constructed through the project site. This road extension would not induce growth. Because onsite development would constitute redevelopment of an already developed site within an urbanized area and does not require the extension of new infrastructure through undeveloped areas, project implementation would not remove an obstacle to growth.

Mitigation Measures. None required.

5.2 GLOBAL CLIMATE CHANGE

Global climate change (GCC) is a change in the average weather of the earth that is measured by temperature, wind patterns, precipitation, and storms over a long period of time. The baseline,

against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed an unprecedented acceleration in the rate of warming during the past 150 years.

GCC is a documented effect. Although the degree to which the change is caused by anthropogenic (man-made) sources is still under study, the increase in warming has coincided with the global Industrial Revolution, which has seen the widespread reduction of forests to accommodate urban centers and agriculture and the use of fossil fuels, primarily burning of coal, oil, and natural gas for energy. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2007), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (90% or greater chance) that the global average net effect of human activities since 1750 has been one of warming. Most of the observed increase in global average temperatures, since the mid-20th century, is likely due to the observed increase in anthropogenic GHG concentrations per the IPCC (November 2007). While individual scientists disagree with some of the findings of the IPCC, the majority of scientists working on climate change agree with the main conclusions, as do the majority of major scientific societies and national academies of science. Disagreement within the scientific community is always present for all issues; however, the current state of knowledge suggests that GCC is occurring, with eleven of the last twelve years (1995-2006) ranking among the twelve warmest years in the instrumental record of global surface temperature since 1850 (IPCC, 2007). In addition, the majority of scientists agree that anthropogenic sources are a main, if not primary, contributor to GCC.

5.2.1 Greenhouse Gases (GHGs)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG), analogous to the way in which a greenhouse retains heat. Common GHG include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O_x), fluorinated gases, and ozone. GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6) (Cal EPA, 2006b).

The accumulation of GHG in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, Earth's surface would be about 34° C cooler (CAT, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO_2 are absorbed by oceans and living biomass (i.e., sinks)

and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (USEPA, April 2008). CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th century. Concentrations of CO_2 in the atmosphere have risen approximately 35% since the beginning of the Industrial Revolution. Per the IPCC (2007), the global atmospheric concentration of CO_2 has increased from a pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. The atmospheric concentration of CO_2 in 2005 exceeds the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. The average annual CO_2 concentration growth rate was larger during the last 10 years (1995–2005 average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates.

Methane. Methane (CH_4) is an effective absorber of radiation, though its atmospheric concentration is less than that of CO_2 and its lifetime in the atmosphere is limited to 10-12 years, compared to some other GHGs. It is approximately 20 times more effective at trapping heat in the atmosphere than CO_2 (global warming potential [GWP] 20x that of CO_2). Over the last 250 years, the concentration of CH_4 in the atmosphere has increased by 148% (IPCC 2007). Anthropogenic sources of CH_4 include landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA, April 2008).

Nitrous Oxide. Concentrations of nitrous oxide (N_2O) also began to rise at the beginning of the industrial revolution. N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers containing nitrogen. Use of these fertilizers has increased over the last century. N_2O's GWP is 300 times that of CO_2.

Fluorinated Gases (HFCS, PFCS and SF_6). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfurhexafluoride (SF_6), are greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances, such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the *Montreal Protocol* and Clean Air Act Amendments of 1990. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but each molecule can have a much greater global warming effect. SF_6 is the most potent greenhouse gas the IPCC has evaluated.

5.2.2 Greenhouse Gas Inventory

Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons of CO_2 equivalent (CDE[1]) in 2004, including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO_2 emissions from fossil fuel use accounts for 56.6% of the total emissions of 49,000 million metric tons CDE (includes land use changes). Methane emissions account for 14.3% of GHG and N_2O emissions for 7.9% (IPCC, 2007).

Total U.S. GHG emissions were 7,054 million metric tons CDE in 2006 (USEPA, April 2008), or about 14% of worldwide GHG emissions. U.S. emissions rose by 14.7% from 1990 to 2006, while emissions fell by 1.1% from 2005 to 2006 (75.7 MMT CDE). The following factors were primary contributors to this decrease: (1) warmer winter conditions in 2006, which reduced consumption of heating fuels, as well as cooler summer conditions, which reduced demand for electricity; (2) restraint on fuel consumption caused by rising fuel prices, primarily in the transportation sector; and (3) increased use of natural gas and renewables in the electric power sector.

The primary GHG emitted by human activities in the United States is CO_2, representing an estimated 84.8% of total GHG emissions (USEPA, April 2008). The largest source of CO_2, and of overall greenhouse gas emissions, is fossil fuel combustion. CH_4 emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile source fossil fuel combustion were the major sources of N_2O emissions. Emissions of substitutes for ozone depleting substances and emissions of HFC-23 during the production of HCFC-22 are the primary contributors to aggregate HFC emissions. Electrical transmission and distribution systems account for most SF_6 emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production.

The residential and commercial end-use sectors accounted for 20% and 18%, respectively, of CO_2 emissions from fossil fuel combustion in 2006 (USEPA, April 2008). Both sectors rely heavily on electricity for meeting energy demands, with 72% and 79%, respectively, of their emissions attributable to electricity consumption for lighting, heating, cooling, and operating appliances. The remaining emissions were due to the consumption of natural gas and petroleum for heating and cooking.

California is the second largest contributor in the United States among states, and if California were a country, it would be the sixteenth largest contributor in the world (AEP, 2007). Based upon the 2004 GHG inventory data (the latest year available) compiled by the California Energy Commission (CEC, December 2006), California produced 492 MMT CDE (7% of US total). The major source of GHG in California is transportation, contributing 41% of the state's total GHG emissions. Electricity generation is the second largest source, contributing 22% of the state's GHG emissions (CEC, December 2006). Most (81%) of California's 2004 GHG emissions (in terms of CDE) were CO_2 produced from fossil fuel combustion, with 2.8% from other sources of CO_2, 5.7% from methane, and 6.8% from N_2O (CEC, December 2006). California emissions are due in part to its large size and large population. California had the fourth lowest CO_2 emissions per capita from

[1] *Carbon dioxide equivalent (CDE or CO_2E) is a quantity that describes, for a given mixture and amount of GHGs, the amount of CO_2 (usually in metric tons; million metric tons [megatonne] = $MMTCO_2E$ = terragram [Tg] CO_2 Eq; 1,000 MMT = gigatonne) that would have the same global warming potential (GWP) when measured over a specified timescale (generally, 100 years).*

fossil fuel combustion in the country in 2001, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have otherwise been (CEC, December 2006). Another factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate.

5.2.3 Effects of Global Climate Change

GCC has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs, including substantial ice loss in the Arctic, that global warming could be taking place (IPCC, 2007).

According to the California Air Resources Board (ARB), potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (ARB 2006c, 2007c). Below is a summary of some of the potential effects reported by an array of studies that could be experienced in California as a result of global warming and climate change.

Air Quality. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC, February 2006).

Water Supply. Uncertainty remains with respect to the overall impact of GCC on future water supplies in California. Studies have found that "considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain, until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change" (Climate Change and California Water Resources, 2003). For example, some studies identify little change in total annual precipitation in projections for California (California Climate Change Center, 2006). Other studies show significantly more precipitation (Climate Change and California Water Resources [(DWR 2006)]). Even assuming that climate change leads to long-term increases in precipitation, analysis of the impact of climate change is further complicated by the fact that no studies have identified or quantified the runoff impacts that such an increase in precipitation would have in particular watersheds (California Climate Change Center, 2006). Also, little is known about how groundwater recharge and water quality will be affected (Ibid.). Higher rainfall could lead to greater groundwater recharge, although reductions in spring runoff and higher evapotranspiration could reduce the amount of water available for recharge (Ibid.).

The California Department of Water Resources (DWR 2006) report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta concludes that "[c]limate change will likely have a significant effect on California's future water resources . . . [and] future water demand." DWR also reports that "much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain" (DWR, 2006).

This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006). DWR adds that "[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future." Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky 2003; DWR 2005; Cayan 2006, Cayan, D., et al, 2006).

Hydrology. As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise may be a product of global warming through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a $30 billion agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (Climate Change and Carrying Capacity (CCCC), 2006).

Ecosystems and Wildlife. Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise as discussed previously: 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation (EPA 2000). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith 2004.)

5.2.4 Regulatory Setting

International, national, state, and local regulations pertaining to GCC are described below.

International and National. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC), since is was signed on March 21, 1994. The Kyoto Protocol is a treaty, made under the UNFCCC, and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5% from 1990 levels, during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States has not bound itself to the Protocol's commitments (UNFCCC, 2007)

The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative (CCTP, December 2007; http://www.epa.gov/climatechange/policy/cctp.html).

To date, the United States Environmental Protection Agency (USEPA) has not regulated GHGs under the Clean Air Act; however, the U.S. Supreme Court in *Massachusetts v. EPA* (April 2, 2007) held that the USEPA can, and should, consider regulating motor-vehicle GHG emissions. The USEPA has not yet promulgated federal regulations limiting GHG emissions. In December 2007, the USEPA also denied California's request for a waiver to directly limit GHG tailpipe emissions, which prompted a suit by California in January 2008 to overturn that decision. In January 2009, President Obama directed federal regulators to review California's request to set automobile emissions and fuel efficiency standards.

California Regulations. Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases", emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State was signed into law in September 2002. In 2005, Executive Order S-3-05 established statewide GHG emissions reduction targets. S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80% of 1990 levels (CalEPA, 2006a).

In response to S-3-05, the CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report"). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that statewide targets are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/ infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc.

AB 32, the "California Global Warming Solutions Act of 2006," was signed into law in the fall of 2006. AB 32 requires the ARB to adopt regulations to require reporting and verification of statewide GHG emissions. The ARB was required to produce a plan by January 1, 2009 to indicate how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions. Additionally, this law requires the ARB to adopt regulations by January 1, 2010 to implement the early action GHG emission reduction measures that can be implemented before the adoption of those recommended by the 2009 plan. The bill requires achievement by 2020 of a statewide GHG emissions limit equivalent to 1990 emissions (essentially a 25% reduction below 2005 emission levels; the same requirement as under S-3-05), and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions.

In response to the requirements of AB 32, the ARB produced a list of 37 early actions for reducing GHG emissions in June 2007. The ARB expanded this list in October 2007 to 44 measures that have the potential to reduce GHG emissions by at least 42 million metric tons of CO_2 emissions by 2020, representing about 25% of the estimated reductions needed by 2020 (ARB, October 2007). After completing a comprehensive review and update process, the ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CDE. The scoping plan required under AB 32 was approved by the ARB Board on December 12, 2008, and it provides the outline for actions to reduce GHG in California. The scoping plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis under CEQA. In April 2009, OPR released draft amendments to CEQA that provide direction to the nature of how GCC will need to be addressed in EIRs, pending input from the public and agencies. The Resources Agency was required to certify or adopt those guidelines by January 1, 2010.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. In addition, a Low Carbon Fuel Standard ("LCFS") for transportation fuels is to be established for California.

Senate Bill (SB) 375, signed in August 2008, requires the inclusion of sustainable communities' strategies (SCS) in regional transportation plans (RTPs) for the purpose of reducing GHG emissions. The bill requires ARB to set regional targets for the purpose of reducing greenhouse gas emissions from passenger vehicles, for 2020 and 2035. On January 23, 2009 ARB appointed a Regional Targets Advisory Committee (RTAC) to provide recommendations on factors to be considered and methodologies to be used in the ARB target setting process, as required under SB 375. SB 375 requires SCAG to direct the development of the Sustainable Communities Strategy (SCS) for the region. Alternatively, if the GHG emissions reduction targets cannot be met through the SCS, an Alternative Planning Strategy (APS) may be developed showing how those targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. Additionally, unique to the SCAG region, is the option for subregions to create their own SCS or APS. After receiving regional targets in 2010, SCAG will begin to develop the SCS and create a plan for meeting emissions reduction targets

by 2020 and 2035 respectively. The new SCS will integrate planning elements of transportation, land use, and housing with GHG reduction targets. This process will require meaningful collaboration and negotiation with local governments and other stakeholders in the region, to ensure a well-balanced SCS is developed and that all aspects of transportation alternatives have been considered and properly vetted.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

5.2.5 Climate Change Impact Analysis

The information provided in this section is based on recently established California goals for reducing GHG emissions, as well as a project-specific emissions inventory developed for onsite development. Determining how a development project might contribute to climate change, and what the overall effect of an individual project would be based on that contribution is still undergoing debate at this time. An individual project (unless it is a massive construction project, such as a dam or a new freeway project, or a large fossil-fuel fired power plant) does not generate sufficient GHG emissions to directly influence global climate change; therefore, the issue of global climate change typically involves an analysis of whether the contribution toward a cumulative impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Methodology. This analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association [CAPCOA] (January 2008) *CEQA and Climate Change* white paper.

To provide guidance to local lead agencies, SCAQMD staff has convened a GHG CEQA Significance Threshold working group. Members of the group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing GHG CEQA significance thresholds.

The analysis focuses on CO_2, N_2O, and CH_4 as these are the GHG emissions that onsite development would generate in the largest quantities. Calculations were based on the methodologies discussed in the CAPCOA white paper (January 2008) and included the use of the California Climate Action Registry General Reporting Protocol (March 2007).

Indirect Emissions. Operational emissions of CO_2, associated with space heating and landscape maintenance were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model. N_2O and CH_4 emissions were quantified using the California Climate Action Registry General Reporting Protocol (March 2007) indirect emission factors for electricity use (see Appendix C for calculations). The calculations and emission factors contained in the General Reporting Protocol were selected based on technical advice provided to the Registry by the California Energy Commission. This methodology is considered reasonable and reliable for use, as it has been subjected to peer review by numerous public and private stakeholders, and in particular by the California Energy Commission, and is recommended by CAPCOA (January 2008).

Direct Emissions from Mobile Combustion. Emissions of CO_2 from transportation sources were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model. N_2O and CH_4 emissions were quantified using the California Climate Action Registry General Reporting Protocol (March 2007) direct emissions factors for mobile combustion (see Appendix C for calculations). Total daily mileage was calculated in URBEMIS 2007 and extrapolated to derive total annual mileage. Emission rates were based on the vehicle mix output generated by URBEMIS and the emission factors found in the California Climate Action Registry General Reporting Protocol.

It should be noted that one of the limitations to a quantitative analysis is that emission models, such as URBEMIS, evaluate aggregate emissions and do not demonstrate, with respect to a global impact, what proportion of these emissions are "new" emissions, specifically attributable to the project in question. For most projects, the main contribution of GHG emissions is from motor vehicles and the total vehicle miles traveled (VMT), but the quantity of these emissions appropriately characterized as "new" is uncertain. Traffic associated with a project may be relocated trips from other locales, and consequently, may result in either higher or lower net VMT. In this instance, it is likely that some of the GHG emissions associated with traffic and energy demand would be truly "new" emissions. However, it is also likely that some of the emissions represent diversion of emissions from other locations. Thus, although GHG emissions are associated with onsite development, it is not possible to discern how much diversion is occurring or what fraction of those emissions represents global increases. In the absence of information regarding the different types of trips, the VMT estimate generated by URBEMIS is used as a conservative, "worst-case" estimate.

Estimate of GHG Emissions.

Operational Indirect and Stationary Direct Emissions. Operation of onsite development would consume an estimated 11,157,200 kilowatt-hours [kWh]/year of electricity (see Table 5-2). The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent N_2O and CH_4. As discussed above, annual electricity emissions can be calculated using the California Climate Action Registry General Reporting Protocol, which has developed emission factors based on the mix of fossil-fueled generation plants, hydroelectric power generation, nuclear power generation, and alternative energy sources associated with the regional grid. CO_2 emission estimates using the URBEMIS model also take into account emissions from other operational sources such as natural gas use for space heating. Table 5-3 shows the operational emissions of GHGs associated with onsite electricity consumption, estimated at 5,881 metric tons per year. It should be noted that in order to provide a conservative estimate of GHG emissions generated by onsite development, no credit was given for the existing onsite energy use associated with the office building that would be demolished.

Transportation Emissions. Mobile source GHG emissions were estimated using the average daily trips estimate generated by the traffic study (Appendix G) and the total vehicle miles traveled estimated in URBEMIS 2007 (v. 9.2.4). The URBEMIS 2007 model estimates that onsite development would generate approximately 168,022 daily VMT. Table 5-4 shows the estimated mobile emissions of GHGs based on this VMT, which include 27,685 metric tons.

Table 5-2
Estimated Electricity Consumption

Type of Use	Amount	Electricity Demand Factor	Annual Electricity Demand
Office	500,000 sf	16,800 kWH/1,000 sf/year*	8,400,000
Residential	528	7,000 kWH/unit*	3,696,000
Retail	244,000 sf	11,300 kWH/1,000 sf/year*	2,757,200
		Total	11,157,200

sf = square feet kWH = kilowatt hour
**Demand factor from CAPCOA, January 2008. CEQA and Climate Change.*

Table 5-3
Estimated Annual Operational Emissions of Greenhouse Gases

Emission Source	Annual Emissions	
	Emissions	**CDE**
Carbon Dioxide (CO_2)[1]	4,040 (short, US)	3,665 metric tons
Methane (CH_4)[2]	0.15 metric tons	3.0 metric tons
Nitrous Oxide (N_2O)[2]	0.0409 metric tons	13 metric tons
Project Total		**5,881 metric tons**

Source:
[1] See Appendix C for calculations.
[2] California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2,March 2007, page 30-35.
See Appendix C for GHG emission factor assumptions.

Table 5-4
Estimated Annual Mobile Emissions of Greenhouse Gases

	Annual Emissions	
Emission Source	**Emissions**	**CDE**
Carbon Dioxide (CO_2)[1]	30,514 tons (short, US)	27,682 metric tons
Methane (CH_4) [2]	3.33 metric tons	3 metric tons
Nitrous Oxide (N_2O) [2]	3.98 metric tons	0.0 metric tons
	Project Total	**27,685 metric tons**

Source:
[1] Mobile Emissions from URBEMIS 2007 (version 9.2.4).
[2] California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2,March 2007, page 30-35.
See Appendix C for GHG emission factor assumptions.

Combined Stationary and Mobile Source Emissions. Table 5-5 combines the operational and mobile GHG emissions associated with onsite development, which total approximately 758,027 metric tons per year in CO_2 equivalency units. This total represents roughly 0.154% of California's total 2004 emissions of 492 million metric tons. These emission projections indicate that the majority of the project GHG emissions are associated with vehicular travel (91%). Mobile emissions are in part a redirection of existing travel to other locations, and so already a part of the total California GHG emissions.

Table 5-5
Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions
Operational	5,881 metric tons CDE
Mobile	27,685 metric tons CDE
Project Total	**33,566 metric tons CDE**

Sources: Operational Emissions from URBEMIS 2007 (version 9.2.4).
California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007.

GHG Cumulative Significance. As discussed above under *Methodology,* CAPCOA (January 2008) provides several approaches to consider potential cumulative significance of projects with respect to GHGs. Table 5-6 shows CAPCOA's suggested thresholds for GHG emissions. A zero threshold approach can be considered based on the concept that climate change is a global phenomenon in that all GHG emissions generated throughout the earth contribute to it, and not controlling small source emissions would potentially neglect a major portion of the GHG inventory.

However, the *CEQA Guidelines* also recognize that there may be a point where a project's contribution, although above zero, would not be a considerable contribution to the cumulative impact (*CEQA Guidelines*, Section 15130 (a)). Therefore, a threshold of greater than zero is considered more appropriate for the analysis of GHG emissions under CEQA.

Table 5-6
CAPCOA Suggested Thresholds for Greenhouse Gases

Quantitative (900 tons)	~900 tons CDE/year
Quantitative CARB Reporting Threshold/Cap and Trade	Report: 25,000 tons CDE/year Cap and Trade: 10,000 tons CDE/year
Quantitative Regulated Inventory Capture	~40,000 - 50,000 tons CDE/year
Qualitative Unit-Based Threshold	Commercial space > 50,000 sf*
Statewide, Regional or Area-wide (CEQA Guidelines 15206(b)).	Office Space > 250,000 sf

**sf = square feet*
Sources: California Air Pollution Control Officers Association (CAPCOA), CEQA & Climate Change, January 2008.

Onsite development would involve infill in a highly urbanized area, which results in intensification and reuse of already developed lands as opposed to low density development on undeveloped lands; therefore it would reduce reliance on the drive-alone automobile. A reduction in vehicle use and vehicle miles traveled can result in a reduction in fuel consumption and in air pollutant emissions, including GHG emissions. Recent research indicates that infill development reduces VMT and associated air pollutant emissions, as compared to development on sites at the periphery of metropolitan areas, also known as "greenfield" sites. For example, a 1999 simulation study conducted for the U.S. Environmental Protection Agency (EPA), comparing infill development to greenfield development, found that infill development results in substantially fewer VMT per capita (39% to 52%) and generates fewer emissions of most air pollutants and greenhouse gases. Table 5-7 shows the results of the EPA study.

Table 5-7
Comparison of VMT and Emissions:
Infill versus Greenfield Development

Case Study	Per Capita Daily VMT, Infill as a Percentage of Greenfield	Emissions, Infill as a Percentage of Greenfield
San Diego, CA	52%	CO 88% NO_x 58% SO_x 51% PM 58% CO_2 55%
Montgomery County, MD	42%	CO 52% NO_x 69% SO_x 110% PM 50% CO_2 54%
West Palm Beach, FL	39%	CO 75% NO_x 72% SO_x 94% PM 47% CO_2 50%

Source: Allen, E., Anderson, G., and Schroeer, W., "The Impacts of Infill vs. Greenfield Development: A Comparative Case Study Analysis," U.S. Environmental Protection Agency, Office of Policy, EPA Publication #231-R-99-005, September 2, 1999.

CAPCOA's suggested quantitative thresholds are generally more applicable to development on greenfield sites, where there would be an increase in VMT and associated GHG emissions than to infill development that would generally reduce regional VMT and associated emissions, as demonstrated in Table 5-7 above. For this reason, the most conservative (i.e., lowest) thresholds suggested by CAPCOA would not be appropriate for onsite development, given that the project site is located in a highly urbanized area. Consequently, GHG emissions reduction strategies that were prepared by California Environmental Protection Agency (CalEPA) Climate Action Team (CAT) have been used as a benchmark for significance and qualitative consideration. The CAT strategies are recommended to reduce GHG emissions at a statewide level to meet the goals of the Executive Order S-3-05 (http://www.climatechange.ca.gov).

The project site is a mixed use project in an urban area of Los Angeles. The project site is close to several bus stops, Union Station, and is adjacent to the Little Tokyo/Arts District Metro Gold Line station. In addition, the project site is within walking distance to neighborhood commercial and downtown Los Angeles commercial and office centers. Onsite development would be required to comply with green building requirements, including energy efficiency measures.

Consistency with CAT strategies is discussed below in tables 5-8 and 5-9. Several of the actions identified in the tables below are already required by California regulations. Tables 5-8 and 5-9 illustrate that onsite development would be consistent with the GHG reduction strategies set forth by the 2006 CAT Report and the 2008 Attorney General's Greenhouse Reduction Report.

Table 5-8
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
California Air Resources Board	
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.	**Consistent** The vehicles that travel to and from the project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling The ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling in July 2004.	**Consistent** Current State law restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site are subject to this state-wide law. Construction vehicles are also subject to this regulation.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	**Consistent** This strategy applies to consumer products. All applicable products would comply with the regulations that are in effect at the time of manufacture.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 to 4% biodiesel displacement of California diesel fuel.	**Consistent** The diesel vehicles that travel to and from the project site on public roadways could utilize this fuel once it is commercially available.
Alternative Fuels: Ethanol Increased use of E-85 fuel.	**Consistent** Project site employees could choose to purchase flex-fuel vehicles and utilize this fuel once it is commercially available regionally and locally.
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.	**Consistent** The heavy-duty vehicles that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50% Statewide Recycling Goal Achieving the State's 50% 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% has been achieved	**Consistent** The City of Los Angeles has achieved a 65% solid waste diversion rate in 2009. It is anticipated that onsite development would participate in the City's waste diversion programs and would similarly divert at least 65% of its solid waste.

Table 5-8
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	***Project Consistency***
on a statewide basis. Therefore, a 2% additional reduction is needed.	
Zero Waste – High Recycling Efforts to exceed the 50% goal would allow for additional reductions in climate change emissions.	**Consistent** The City of Los Angeles has achieved a 65% solid waste diversion rate in 2009. It is anticipated that onsite development would participate in the City's waste diversion programs and would similarly divert at least 65% of its solid waste. The project would also be subject to all applicable State and City requirements for solid waste reduction as they change in the future.
Department of Forestry	
Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Consistent** Chapter I of the City of Los Angeles Municipal Code specifies the amount of trees and landscaping required for land uses.
Department of Water Resources	
Water Use Efficiency Approximately 19% of all electricity, 30% 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 greenhouse gas emissions.	**Consistent** Chapter XII of the City of Los Angeles Municipal Code includes the Water Conservation Plan for the City of Los Angeles, which would reduce water use and greenhouse gas emissions.
Energy Commission (CEC)	
Building Energy Efficiency Standards in Place 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).	**Consistent** Onsite development would need to comply with the standards of Title 24 that are in effect at the time of development.
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission 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).	**Consistent** Under State law, appliances that are purchased for onsite development - both pre- and post-development – would be consistent with energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent** Employees and residents of the project site could purchase tires for their vehicles that comply with state programs for increased fuel efficiency.

Table 5-8
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
Municipal Utility Energy Efficiency Programs/Demand Response Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	*Not applicable*, but onsite development would not preclude the implementation of this strategy by municipal utility providers.
Municipal Utility Renewable Portfolio Standard California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20% of retail electricity sales from renewable energy sources by 2017, within certain cost constraints.	*Not applicable*, but the project would not preclude the implementation of this strategy by Southern California Edison.
Municipal Utility Combined Heat and Power Cost effective reduction from fossil fuel consumption in the commercial and industrial sector through the application of on-site power production to meet both heat and electricity loads.	*Not applicable* since this strategy addresses incentives that could be provided by utility providers such as Southern California Edison and The Gas Company. In addition, the commercial facilities at the site are too small for efficient combined heat and power production.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent** Employees of the project site could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally.
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% by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20% target.	**Consistent** As discussed previously, onsite development would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of development. The 2005 Title 24 standards are approximately 8.5% more efficient than those of the 2001 standards.
Business, Transportation and Housing	
Measures to Improve Transportation Energy Efficiency Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	**Consistent** Onsite development would involve urban infill. The project site is immediately adjacent to the Little Tokyo/Arts District Metro Gold Line station and is located along several bus lines; therefore, onsite land uses would have readily available access to public transportation, which could incrementally reduce the number of regional vehicle trips.
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and	**Consistent** Mixed use development contemplated for the site involves a mix of jobs and housing opportunities. As noted above, the project site is also located along major

Table 5-8
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	***Project Consistency***
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. The Governor 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. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	transit corridors.
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33% renewable in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33% goal.	*Not applicable*, but onsite development would not preclude the implementation of this strategy by energy providers.
California Solar Initiative The solar initiative includes 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.	**Consistent** Although solar roofs are not proposed as part of onsite development, it is recommended that the applicants consider the installation and use of solar equipment. In addition, the City of Los Angeles Green Building ordinance requires energy efficiency techniques.

Table 5-9
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Transportation-Related Emissions	
Diesel Anti-Idling Set specific limits on idling time for commercial vehicles, including delivery vehicles.	**Consistent** Currently, the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site are subject to this state-wide law. Construction vehicles are also subject to this regulation.
Transportation Emissions Reduction The project applicant shall promote ride sharing program e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading an unloading waiting areas.	**Consistent** Pursuant to Section 12.26 of the City of Los Angeles Municipal Code, the site developer would be required to provide a bulletin board, display case, or kiosk (displaying transportation information) where the greatest number of employees are likely to see it, which would contain ridesharing information.
Transportation Emissions Reduction Contribute transportation impact fees per residential and commercial unit to the City, to facilitate and increase public transit service.	**Consistent** The developer would be required to pay traffic management fees pursuant to Chapter VI of the City of Los Angeles Municipal Code.
Transportation Emissions Reduction Provide shuttle service to public transportation.	**Consistent** Shuttle service to public transportation would be unnecessary as the project site is located near Union Station and several bus lines, and is immediately adjacent to the Little Tokyo/Arts District Metro Gold Line station.
Transportation Emissions Reduction Incorporate bike lanes into the project circulation system.	*Not applicable*, as site residents and employees would use the existing City of Los Angeles circulation system. However, onsite development would not preclude the addition of bike lanes to City streets.
Transportation Emissions Reduction Provide onsite bicycle and pedestrian facilities (showers, bicycle parking, etc.) for commercial uses, to encourage employees to bicycle or walk to work.	**Consistent** Pursuant to Section 12.21.16 of the City of Los Angeles Municipal Code, onsite development would be required to provide bicycle parking and shower facilities.
Solid Waste and Energy Emissions	
Solid Waste Reduction Strategy Project construction shall require reuse and recycling of construction and demolition waste.	**Consistent** Pursuant to Chapter XIX, Article 1 of the City of Los Angeles Municipal Code, onsite development would be required to follow regulations related to solid waste and recycled materials.
Water Use Efficiency Require measures that reduce the amount of water	**Consistent** Chapter XII of the City of Los Angeles Municipal Code

Table 5-9
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	***Project Consistency***
sent to the sewer system – see examples in CAT standard above. (Reduction in water volume sent to the sewer system means less water has to be treated and pumped to the end user, thereby saving energy.	establishes the requirements for the Water Conservation Plan for the City. In compliance with this Plan, onsite development would be required to meet water conservation phases identified in Section 121.08 of the Code.
Land Use Measures, Smart Growth Strategies and Carbon Offsets	
Smart Land Use and Intelligent Transportation Systems Encourage mixed-use and high density development to reduce vehicle trips, promote alternatives to vehicle travel and promote efficient delivery of services and goods.	**Consistent** Onsite development involves urban infill located in a densely developed area. The project site is located near Union Station and several bus stops, and immediately adjacent to the Little Tokyo/Arts District Metro Gold Line station.
Smart Land Use and Intelligent Transportation Systems Require pedestrian-only streets and plazas within the project site and destinations that may be reached conveniently by public transportation, walking or bicycling.	**Consistent** The project site is located within an urban environment. The project site is accessible by sidewalk.

In addition, the California Office of Planning and Research (OPR) CEQA guidelines include recommended mitigation strategies to reduce GHG impacts. According to this document, mitigation measures may include:

1. *Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal.*

2. *The potential of siting, orientation, and design to minimize energy consumption, including transportation energy, water conservation and solid-waste reduction.*

3. *The potential for reducing peak energy demand.*

4. *Alternate fuels (particularly renewable ones) or energy systems.*

5. *Energy conservation which could result from recycling efforts.*

Onsite development would reduce wasteful, inefficient and unnecessary consumption of energy and utilize alternative fuels by complying with mitigation measures AQ-1(a-l) identified in Section 4.2, *Air Quality*. In addition, onsite development would be required to comply with Chapter IX, Division 13, of the City of Los Angeles Municipal Code. In addition, buildings would be required to be designed to comply with requirements of Part 6, Title 24 of the California Building Standards Code – California Energy Code.

Onsite development would be required to utilize water conservation measures by implementing water conservation strategies described in Section 4.12, *Utilities*, under Mitigation

Measure U-1. Onsite development would utilize solid waste reduction measures by implementing solid waste reduction strategies described in Section 4.12, *Utilities*, under Mitigation Measure U-3.

Recycling efforts would be maximized by complying with Chapter XIX, Article I of the City of Los Angeles Municipal Code, which discusses recycled materials management.

Onsite development would be consistent with CAT and Attorney General Strategies, as demonstrated in tables 5-8 and 5-9 and OPR strategies as discussed above. In addition, onsite development would constitute infill development, which studies show reduces VMT by about 50% compared to greenfield development (Allen, E., Anderson, G., and Schroeer, W, 1999). Furthermore, under the City of Los Angeles *Green LA, An Action Plan* to *Lead the Nation in Fighting Global Warming* (LA Green Plan), the City aims to further reduce GHG emissions from 1990 levels through implementation of City initiated programs.

In addition, onsite development would be required to comply with SB 375, including implementation of the SCS for the region. Onsite development would also be required to comply with all applicable Municipal Code requirements, as discussed in this section. Therefore, the contribution of onsite development to cumulative GCC impacts would be less than significant.