Section 4.5: Air Quality

An Air Quality Impact Analysis, dated November 2009, has been prepared by Giroux and Associates to characterize air quality in the project area and to determine the proposed Amendment's potential impacts to air quality. A Health Risk Assessment (HRA) was also prepared in June 2009 by Giroux and Associates to analyze the impacts of diesel emissions from trucks on the freeway, trains on the railroad tracks, and nearby airport operations on future residential development on the project site. The findings of the analyses are summarized below, and the Air Quality Impact Analysis and the Health Risk Assessment are provided in Appendices E and F of this SEIR, respectively.

4.5.1 Environmental Setting

Climate

The climate of western San Bernardino County, as within the City of Ontario and all of Southern California, is governed largely by the strength and location of the semi-permanent high pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidities. The same climatic conditions that create a desirable living climate severely restrict the ability of the local atmosphere to disperse large volumes of air pollution generated by the population and industry attracted in part by the climate of Southern California.

The City of Ontario is in an area where pollutants generated in coastal portions and the more urbanized areas of the Los Angeles basin undergo photochemical reactions and then move inland across the City and the project site during the daily sea breeze cycle. The resulting smog at times gives western San Bernardino County some of the worst air quality in all of California. Fortunately, significant air quality improvement in the last decade suggests that healthful air quality may someday be attained despite the limited regional meteorological dispersion potential in the area.

Winds in the project area control both the initial rate of dilution of locally generated air pollutant emissions, as well as their regional trajectory. Winds across the project site display a very unidirectional onshore flow from the southwest-west that is strongest in summer with a weaker offshore return flow from the northeast that is strongest on winter nights when the land is colder than the ocean. The onshore winds during the day have average speeds of 6 to 10 miles per hour (mph), while the offshore flow is often calm or drifts slowly westward at 1 to 3 mph.

During the daytime, locally-generated pollutant emissions are rapidly transported eastward toward Banning Pass and northeast towards the Cajon Pass without generating any localized air quality impacts. The nocturnal drainage winds which move slowly across the area have some potential for localized stagnation, but fortunately, these winds have their origin in the adjacent mountains, where background air pollution levels are low and any localized contributions do not create any unhealthful impacts in the project area.

In addition, there are two distinct types of temperature inversions that control the vertical depth through which air pollutants are mixed. The summer on-shore flow is capped by a massive dome of warm, sinking air which caps a shallow layer of cooler ocean air. These marine/subsidence inversions act like a giant lid over the basin. They allow for local mixing of emissions, but they confine the entire polluted air mass within the basin until it escapes into the desert or along the thermal chimneys formed along heated mountain slopes.

High pressure over the Great Basin also creates funneled, gusty down-canyon flows. The dry air moving downslope becomes warm and becomes even more dry when it reaches the bottoms of local canyons. These so-called "Santa Ana" winds create dust storms in the project area, and make dust control difficult. The Santa Ana winds affect the City of Ontario, including the project site.

“Hot spots” are localized concentrations of air pollutants where emissions from specific sources may expose individuals to elevated risks of adverse health effects. In winter, when the air near the ground cools while the air aloft remains warm, radiation inversions are formed that trap low-level emissions (such as automobile exhaust) near their source. As background levels of primary vehicular exhaust rise during the seaward return flow, the combination of rising non-local baseline levels plus emissions trapped locally by these radiation inversions creates micro-scale air pollution "hot spots" near freeways, shopping centers, and other traffic concentrations in the Los Angeles Basin. However, the nocturnal downslope wind has its origin in very lightly developed areas of the San Gabriel Mountains, and background pollution levels at night in winter are very low in the project vicinity. Localized air pollution contributions are insufficient to create any "hot spot" potential when added to the clean nocturnal baseline. The combination of winds and inversions are thus critical determinants in leading to the degraded air quality in summer, and the generally good air quality in winter in the project area.

Air Quality

Ambient air quality standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. The standards are designed to protect those most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, who are called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard. Table 4.5-1, *Health Effects of Pollutants*, identifies the adverse effects of exposure to various air pollutants.

TABLE 4.5-1
HEALTH EFFECTS OF POLLUTANTS

Pollutants	Sources	Health Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust • Natural events, such as decomposition of organic matter	• Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust • High temperature stationary combustion • Atmospheric chemical reactions	• Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardio-pulmonary function

TABLE 4.5-1
HEALTH EFFECTS OF POLLUTANTS

Pollutants	Sources	Health Effects
		• Plant leaf injury
Lead (Pb)	• Contaminated soils	• Impairment of blood function and nerve construction • Behavioral and hearing problems in children
Respirable Particulate Matter (PM_{10})	• Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions	• Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardio-respiratory diseases • Increased cough and chest discomfort • Surface soiling • Reduced visibility
Ultra Fine Particulate Matter ($PM_{2.5}$)	• Fuel combustion in motor vehicles, equipment and industrial sources • Residential and agricultural burning • Industrial processes • Formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics	• Increased respiratory disease • Lung damage • Cancer and premature death • Reduces visibility and results in surface soiling
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finished, coatings, etc.
Source: California Air Resources Board Factsheet		

Federal Air Quality Regulations

The Clean Air Act established national Ambient Air Quality Standards (AAQS) in 1971 for six pollutants, with states retaining the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. The Federal Clean Air Act Amendments (1977) requires that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAQMD and the Southern California Association of Governments (SCAG) first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called $PM_{2.5}$). New national AAQS were adopted in 1997 for

these pollutants. California then set more stringent standards for 8-hour zone exposure and $PM_{2.5}$.

A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for $PM_{2.5}$ were strengthened; a new class of PM in the 2.5 to 10 micron size was created; some PM_{10} standards were revoked; and a distinction between rural and urban air quality was adopted.

State Air Quality Regulations

Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology in the State, there is considerable difference between State and national clean air standards, with the State standards generally more stringent. These standards are shown in Table 4.5-2, *Ambient Air Quality Standards.*

TABLE 4.5-2
AMBIENT AIR QUALITY STANDARDS

		California Standards		Federal Standards		
Pollutant	**Averaging Time**	**Concentration**	**Method**	**Primary**	**Secondary**	**Method**
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		Revoked (2006)		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	–
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		0.100 ppm	0.053 ppm (100 µg/m^3)	
Lead	30-Day average	1.5 µg/m^3	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Sulfur Dioxide (SO_2)	24 Hour	– 0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence		– –	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	–	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles		**No Federal**		

TABLE 4.5-2
AMBIENT AIR QUALITY STANDARDS

		California Standards		Federal Standards		
Pollutant	**Averaging Time**	**Concentration**	**Method**	**Primary**	**Secondary**	**Method**
		when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

ppm – parts per million µg/m^3 – micrograms per cubic meter mg/ m^3 - milligrams per cubic meter
Source: California Air Resources Board, 2010

The 2003 AQMP was approved by the EPA in 2004. The Air Quality Management Plan (AQMP) outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM_{10}) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. The attainment deadline changed from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal $PM_{2.5}$ standard.

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007, after extensive public review. This AQMP recognizes the interaction between photochemical processes that create both ozone and the smallest airborne particulates ($PM_{2.5}$). The 2007 AQMP is therefore a coordinated plan for both pollutants. Key emissions reduction strategies in the AQMP include:

- Ultra-low emissions standards for both new and existing sources (including on-and-off-road heavy trucks, industrial and service equipment, locomotives, ships and aircraft)
- Accelerated fleet turnover to achieve benefits of cleaner engines
- Reformulation of consumer products
- Modernization and technology advancements from stationary sources (refineries, power plants, etc.)

Local Air Quality Regulations
The City of Ontario does not regulate pollutant emissions. However, Article 33, Environmental Performance Standards, of the City's Development Code states that:

> *Dust and Paint* - All uses including grading, construction and operational phases, shall be conducted in a manner so as to prevent dust emissions and paint overspray from creating hazardous or potentially hazardous conditions within the site and surrounding areas.

Smoke - Smoke emissions shall be controlled in accordance with the standards of the South Coast Air Quality Management District.

Odors or Gases - The emission of obnoxious odors of any kind shall not be permitted and no gas shall be emitted which is injurious to the public health, safety or general welfare.

Existing Air Quality

The South Coast Air Quality Management District (SCAQMD) operates a monitoring station in Ontario that measures particulate matter. The closest station to Ontario that measures nitrogen dioxide, carbon monoxide, and ozone is located in Upland. Table 4.5-3, *Air Quality Monitoring Data*, summarizes the SCAQMD monitoring data from the Ontario and Upland stations from 2004 to 2009.

TABLE 4.5-3
AIR QUALITY MONITORING DATA

Pollutant/Standard	2004	2005	2006	2007	2008	2009
Ozone						
1-Hour > 0.09 ppm (S)	31	34	50	32	51	51
1-Hour > 0.12 ppm (F)*	2	8	14	7	9	3
8-Hour > 0.07 ppm (S)	31	34	54	55	65	71
8- Hour > 0.075 ppm (F)	18	15	25	35	50	49
Max. 1-Hour Conc. (ppm)	0.14	0.15	0.17	0.15	0.16	0.15
Carbon Monoxide						
1-Hour > 20. ppm (S)	0	0	0	0	0	0
1-Hour > 9. ppm (S, F)	0	0	0	0	0	0
Max 1-Hour Conc. (ppm)	3.0	3.0	3.0	2.0	2.0	2.0
Max 8-Hour Conc. (ppm)	2.1	1.8	1.8	1.7	1.6	1.5
Nitrogen Dioxide						
1-Hour > 0.25 ppm (S)	0	0	0	0	0	0
Max 1-Hour Conc. (ppm)	0.11	0.10	0.10	0.10	0.09	0.11
Inhalable Particulates (PM_{10}) [1]						
24-Hour > 50 $\mu g/m^3$ (S)	17/58	19/60	17/62	14/58	15/62	8/61
24-Hour > 150 $\mu g/m^3$ (F)	0/58	0/60	0/62	0/58	0/62	0/61
Max. 24-Hr. Conc. ($\mu g/m^3$)	93.	74.	78.	115.	90.	70.
Ultra-Fine Particulates ($PM_{2.5}$) [1]						
24-Hour > 65 $\mu g/m^3$ (F)	2/112	1/110	0/107	1/102	0/113	-
24-Hour > 35 $\mu g/m^3$ (F)**	-	-	7/107	6/102	6/113	3/122
Max. 24-Hr. Conc. ($\mu g/m^3$)	86.1	87.8	53.7	72.8	54.2	46.9

* standard revoked in 2006 **reduced to 35 $\mu g/m^3$ in 2007
Source: SCAQMD Upland Monitoring Station (5175) data, 2004 to 2009
[1] Ontario 1408 Francis Street (5817)

As shown by these data, photochemical smog (ozone) levels frequently exceed standards in the project area. The 1-hour state standard was violated an average of 41.5 days a year in the last six years. The former Federal 1-hour standard has been exceeded an average of 7.2 times a year within the last six years, while the new 8-hour state ozone standard has been exceeded an average of 51.7 times a year in the past six years. The Federal 8-hour ozone standard has averaged around 32 violations per year since 2004. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project area is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.

PM_{10} levels have exceeded the state 24-hour standard on approximately 25 percent of all measured days but the less stringent federal 24 hour-standard has not been exceeded in the past six years. Year-to-year fluctuations of overall maximum 24-hour PM_{10} levels do not have a discernable trend, although 2009 had the lowest maximum 24-hour concentration (with 2005 second lowest) in the last six years.

$PM_{2.5}$ readings have exceeded the federal 24-hour ambient standard on approximately one percent of the measured days per year for the last six years. There were no violations in 2006 measured at the Ontario monitoring station. The federal 24-hour standard was reduced in 2006 from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The substantially more stringent new standard was exceeded 5 percent of all days since 2006.

More localized pollutants such as carbon monoxide and nitrogen oxides are at very low concentrations near the project site because background levels, even in western San Bernardino County, never exceed allowable levels. There is excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx or CO without any threat of violating applicable AAQS.

Project Site Emissions

The project site is largely undeveloped, with a trailer used as a US Post Office. Pollutant emissions are limited to the vehicle emissions from vehicle trips to and from the Post Office and indirect emissions from power consumption by the Post Office trailer.

4.5.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on air quality, if its implementation results in any of the following:

- Conflicts with or obstructs implementation of the applicable air quality plan;
- Violates any air quality standard or contribute substantially to an existing or projected air quality violation;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors affecting a substantial number of people.

The SCAQMD's thresholds of significance for various pollutants are:

Pollutant	Construction (lbs/day)	Operations (lbs/day)
ROG	75	55
NO_x	100	55
CO	550	550
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
Lead (Pb)	3	3

Projects that exceed these thresholds are considered to have a significant adverse impact on air quality.

Indicators are also listed in the SCAQMD CEQA Air Quality Handbook that should be used as screening criteria to evaluate the need for further analysis with respect to air quality. Whenever possible, the project should be evaluated in a quantitative analysis; otherwise a qualitative analysis is appropriate. These indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.
- Project could result in an accidental release of toxic, hazardous or odorous air contaminants, including air contaminants in small diameter particulate matter fraction of diesel exhaust

The SCAQMD CEQA Handbook also identifies various secondary significance criteria related to toxic, hazardous, or odorous air contaminants. For toxic air contaminants (TACs), the SCAQMD has indicated that the individual cancer risk significance is considered less than significant if it will lead to less than 1.0 in one million cancer risk exposure. It is also considered insignificant if the risk is from 1.0 to 10 in one million and best available control technology has been used. If the risk is greater than 10 in one million, the risk is considered significant.

4.5.3 Environmental Impacts

Future residential development under the proposed Specific Plan Amendment would lead to the generation of air pollutants in the South Coast air basin.

Air Quality Management Plan Consistency *(Would the project conflict with or obstruct the implementation of the applicable air quality plan? Would the project result in population increases within the regional statistical area which would be in excess of that projected in the AQMP? Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?)*

New development, such as future residential uses proposed under the Guasti Plaza Specific Plan Amendment, do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing "general" development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of master planned growth is determined. If a given project incorporates any available transportation control measures that can be implemented on a project-specific basis, and if the scope and phasing of a project are consistent with adopted forecasts as shown in the Regional Comprehensive Plan (RCP), which in turn, were used in the assumptions of future growth used in the AQMP, then the regional air quality impact of project growth would be consistent with the AQMP. In addition, the SCAQMD considers a project to be consistent with the AQMP if it would not result in an increase in the frequency or severity of existing air quality violations; would not cause or contribute to new violations; and would not delay the timely attainment of the AAQS or interim emission reductions in the AQMP. Analysis of AQMP consistency is based on these two approaches, as provided below.

Air Quality Planning Consistency

The AQMP is based on projections in population, employment, and vehicle miles traveled (VMT) in the South Coast air basin, as projected by SCAG. The SCAG projections are based on buildout estimates for the individual cities in the region.

Planned commercial uses within Guasti Plaza were used in development growth projections for the City and are consistent with regional projections used in the AQMP. Proposed residential uses on the site are not consistent with regional growth projections, as the site was planned for commercial, office and light industrial uses under the adopted Specific Plan. With the potential for a change in planned development on the site from office to residential uses, the anticipated population, household, and employment growth at the site would be different than those included in the buildout projections for the City of Ontario that were used in regional growth projections. Thus, the proposed Amendment is not consistent with the growth assumptions used by the AQMP.

However, the City of Ontario recently adopted a new General Plan, which identifies the future development within the Guasti Plaza Specific Plan to consist of 500 dwelling units and several million square feet of office and commercial uses, as proposed in the Amendment. The buildout of the City under this new General Plan would be used by SCAG in future updates to their regional projections and planning documents.

Also, the proposed Amendment would locate residential uses near commercial and office uses, which would allow on-site residents to work, shop, and obtain services nearby. Alternatively, employees of nearby office and commercial uses may choose to live at the proposed residential development. This would result in a reduction in trip lengths, as well as in the trip generation from the site, due to the proposed Amendment, as Guasti Plaza becomes a live-work environment for professionals and nuclear families. Thus, reductions in pollutant emissions from future site development would meet the AQMP's main objective of reducing pollutant emissions in the South Coast air basin and would have beneficial impacts on air quality.

Violation of Standards

The South Coast Air Basin is designated by the State and USEPA as non-attainment areas for O_3, PM_{10}, and $PM_{2.5}$. The pollutant emissions that would be generated by future residential uses on the site would add to existing violations of O_3, PM_{10}, and $PM_{2.5}$.

Because of the PM_{10} and $PM_{2.5}$ non-attainment status of the air basin, construction dust and exhaust emissions from future residential development would contribute to existing violations of the PM_{10} and $PM_{2.5}$ standards. These emissions would increase the frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP.

Also, due to the non-attainment status of the air basin for ozone, construction equipment emissions from the project would generate ROG and NOx, which are precursors of ozone (O_3) and thus, would contribute to existing violations of ozone standards in the South Coast Air Basin. This is considered a significant adverse impact.

Impact 4.5.1: Construction activities at the site would contribute to existing violations of O_3, PM_{10} and $PM_{2.5}$ standards.

Because of the non-attainment status of the SCAB for PM_{10} and $PM_{2.5}$, an aggressive dust control program is required to control fugitive dust for any new construction. Use of BACMs would be required during construction on the site.

Measures to reduce NO_x and ROG emissions (which are precursors for ozone) would need to be implemented during construction. With mitigation, peak daily construction activity emissions are further reduced, as shown in Tables 4.5-4 and 4.5-5 below.

Similarly, vehicle trips, electrical power and natural gas generation to serve demands from future residential uses and on-site equipment and activities would generate pollutant emissions. Thus, long-term operational emissions associated with occupancy of the 500 dwelling units would also contribute to pollutant emissions in the basin, resulting in significant impacts related to contributions to existing violations of O_3, PM_{10}, and $PM_{2.5}$. This is considered a significant adverse impact.

Impact 4.5.2: Occupancy of future residential uses at the site would contribute to existing violations of O_3, PM_{10} and $PM_{2.5}$ standards.

Thus, while residential development under the proposed Amendment would result in less vehicle trips to and from the site and less VMT, it is not consistent with the AQMP for the South Coast Air Basin.

Air Quality Standards *(Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? Would the project exceed SCAQMD thresholds of significance?)*

Construction and operational emissions from future residential development on the site would add to air pollutant levels in the air basin. As discussed above, future residential development would contribute to existing violations of state and federal air quality standards in the South Coast Air Basin.

Construction Emissions – Particulate Matter

Dust is the primary concern during construction of new buildings and infrastructure. They are generated by ground disturbance and excavation activities and emission rates are dependent on soil silt content, soil moisture, wind speed, land area under disturbance, number of vehicles, depth of disturbance or excavation, and other factors. These factors are generally not known with any reasonable certainty prior to project development and may change from day to day.

SCAQMD estimates average daily PM_{10} emissions during site grading and ground disturbance to be 26.4 pounds/acre/day. Use of enhanced dust control procedures, such as continual soil wetting, use of supplemental binders, and early paving, can achieve a substantially higher PM_{10} control efficiency. Daily emissions with the use of reasonably available control measures (RACMs) for PM_{10} can reduce emission levels to around 10 pounds/acre/day. With the use of best available control measures (BACMs) the California Air Resources Board URBEMIS2007 computer model predicts that emissions can be reduced to 1 to 2 pounds/acre/day.

Construction of 500 multi-family units on the site is estimated to require 3.3 acres to be under simultaneous construction. With the use of RACMs, daily PM_{10} emissions during site grading would be 33 pounds per day (3.3 x 10.0 = 33 pounds/day). With the use of BACMs, daily PM_{10}

emissions would be 4 to 8 pounds per day only. The SCAQMD significance threshold of 150 pounds per day would not be exceeded. Impacts would be less than significant.

$PM_{2.5}$ emissions are estimated by the SCAQMD to comprise approximately 20.8 percent of PM_{10}. Other studies have shown that the fugitive dust fraction of $PM_{2.5}$ is closer to 10 percent. At 20.8 percent, daily $PM_{2.5}$ emissions during construction of future residential development on the site, with the use of BACMs (as required above), will be around 1 pound per day, which is considerably less than the SCAQMD CEQA significance threshold of 55 pounds per day. Impacts would be less than significant.

Nuisance Dust

In addition to fine particles that remain suspended in the atmosphere semi-indefinitely, construction activities generate many larger particles with shorter atmospheric residence times. This dust is comprised mainly of large diameter inert silicates that are chemically non-reactive and are readily filtered out by human breathing passages. These fugitive dust particles are therefore more of a potential soiling nuisance as they settle out on parked cars, outdoor furniture or landscape foliage rather than any adverse health hazard. The deposition distance of most soiling nuisance particulates is less than 100 feet from the source. Land uses within 100 feet of the site include vacant land, railroad tracks, office and industrial buildings, church, and utility yard, which conduct most activities indoors and/or have low on-site populations. These uses would not be adversely affected by large diameter inert silicates. There are no existing residents within 100 feet from the project site. It is also expected that commercial uses to the west of the site would be developed prior to future residential development on the site, since building plans for these adjacent development have been submitted to the City for review.

In the event that residential units at the site are occupied prior to the completion or construction of commercial uses to the west or north, or if residential development is phased, residents may be exposed to nearby construction emissions. The use of BACMs during construction (as required above) would reduce impacts associated with nuisance dust.

Construction vehicles may also drop or carry out dirt or silt that is washed into public streets. Passing non-project vehicles then pulverize the dirt to create off-site dust impacts. Congestion effects may also occur as construction may entail roadway encroachment, detours, lane closures, and competition between construction vehicles (trucks and contractor employee commuting) and ambient traffic for available roadway capacity. Emissions controls require good housekeeping procedures (part of SWPPP compliance) and a construction traffic management plan (part of Greenbook compliance) that will reduce nuisance dust.

Construction Emissions – Exhaust Emissions

Exhaust emissions will result from on and off-site heavy equipment used in construction of future residential uses on the site. The types and numbers of equipment will depend on the contractor and phase of construction. Initial clearing and will gradually shift toward building construction and then for finish construction, paving, and landscaping. The URBEMIS2007 computer model was used to calculate emissions from the following prototype construction equipment fleet for residential construction:

<u>Grading</u>

- 1 Grader
- 1 Rubber Tired Dozer
- 1 Tractor/Loader/Backhoe
- 1 Water Truck

<u>Paving</u>

- 4 Cement Mixers
- 1 Paver
- 2 Paving Equipment
- 1 Roller

- 1 Tractor/Loader/Backhoe

Construction
- 3 Welders
- 1 Tractor/Loader/Backhoe
- 1 Generator Set
- 1 Crane
- 2 Forklifts

Calculated construction activity emissions are summarized in Table 4.5-4, *Construction Activity Emissions.* As shown, peak daily construction activity emissions will be below SCAQMD thresholds. Impacts would be less than significant.

TABLE 4.5-4
CONSTRUCTION ACTIVITY EMISSIONS (POUNDS/DAY)

Activity	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Grading						
No Mitigation	3.0	25.1	13.5	0.0	34.2	8.0
With Mitigation	3.0	21.3	13.5	0.0	3.3	0.8
Construction						
No Mitigation	5.9	31.5	58.8	0.1	1.9	1.8
With Mitigation	5.9	29.0	58.8	0.1	1.1	0.9
Coating and Paving						
No Mitigation	26.8	17.5	13.5	0.0	1.5	1.4
With Mitigation	24.4	15.0	13.5	0.0	0.3	0.2
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Source: Giroux and Associates, 2009.						

Operational Emissions

Operational air pollutant emissions will mainly come from vehicles (mobile sources) that will be generated by future residential development under the proposed Guasti Plaza Specific Plan Amendment. In addition, energy demand met by burning fossil fuels in regional power plants will add NO_x, ROG, and CO emissions (area sources) from future development.

Area source and operational emissions from project-related traffic were calculated using a computerized procedure developed by the California Air Resources Board (CARB) for urban growth mobile source emissions. Long-term emissions from future residential development under the proposed Specific Plan Amendment are compared to emissions from commercial uses in Table 4.5-5, *Operational Emissions.*

TABLE 4.5-5
OPERATIONAL EMISSIONS (POUNDS/DAY)

Source	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential Use						
Area Sources	27.0	4.9	3.6	0.0	0.0	0.0
Mobile Sources	25.2	32.1	296.1	0.3	52.4	10.2
Total	52.2	37.0	299.7	0.3	52.4	10.2
Commercial Use						
Area Sources	3.3	3.2	8.8	0.0	0.0	0.0
Mobile Sources	60.6	86.7	781.4	0.9	142.0	27.7
Total	63.9	89.9	790.1	0.9	142.0	27.7
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Source: Giroux and Associates, 2009.						

As shown, planned commercial uses would generate almost 3 times more trips than residential uses and would lead to emissions that would exceed thresholds for ROG, NOx, and CO. However, area source and vehicle emissions from future residential uses would not exceed SCAQMD thresholds.

Future multi-family development would have to implement trip reduction measures, in accordance with the City's Trip Reduction Ordinance. This ordinance requires new multi-family dwelling and condominium projects containing 10 or more units to provide one bicycle rack with three bicycle parking spaces for every 30 vehicle parking spaces; sidewalks from public streets to each building; a passenger loading area along the building entrance for at least 5 vehicles; and transit facilities, such as bus shelters, bus pullouts, and bus pads, if needed to serve the development.

Impacts would be less than significant.

Micro-Scale CO Impact Analysis *(Would the project generate vehicle trips that cause a CO "hot spot"?)*

Micro-scale air quality impacts have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for carbon monoxide (CO). However, the SCAQMD has demonstrated in its CO attainment redesignation request to USEPA that there are no "hot spots" anywhere in the air basin, even at intersections with much higher traffic volumes, much worse congestion, and much higher background CO levels than anywhere in the City of Ontario. If the worst-case intersections in the air basin have no "hot spot" potential, any local CO impacts on or near the project site will also be well below CO standards.

A CO screening analysis was performed at major intersections surrounding the project site. One-hour CO concentrations were calculated on the sidewalk adjacent to these intersections and the calculated peak one-hour levels (ppm above background) are provided in Table 4.5-6, *One-Hour CO Concentrations.*

TABLE 4.5-6
ONE-HOUR CO CONCENTRATIONS (PPM)

Intersections	Existing	2010 Without Project	2010 With Project
AM Peak Hour			
Guasti Road at Winery Rd	0.6	1.3	1.7
Villa Lane	0.5	0.8	1.3
Turner Avenue	0.5	0.7	1.1
Parking Structure 1	0.4	0.6	0.9
Biane Lane	0.4	0.5	0.5
Street 5	0.4	0.4	0.7
PM Peak Hour			
Guasti Road at Winery Rd	0.6	1.4	1.4
Villa Lane	0.6	1.0	1.2
Turner Avenue	0.5	0.6	1.1
Parking Structure 1	0.4	0.6	1.0
Biane Lane	0.5	0.5	0.9
Street 5	0.5	0.5	0.9
Source: Giroux and Associates, 2009.			

Based on SCAQMD data, existing peak (2007) one-hour local CO background levels in the project area are at 2.0 ppm. Combining the background levels (2.0 ppm) with the highest

estimated project-generated concentration (1.7 ppm) equates to CO levels of 3.7 ppm, which are far below the one-hour standard of 20 ppm. Worst-case one-hour levels are even lower than the allowable 8-hour exposure of 9 ppm. Thus, micro-scale impacts would be less than significant.

Hazardous Materials and Toxic Emissions *(Would the project generate toxic, hazardous, or odorous air contaminants that may present health risks to the local population? Diesel emissions risk is considered significant if the risk is greater than 10 in one million.)*

Hazardous Emissions

There are 7 structures between Planning Areas 2 and 3 that are not in use. These structures are considered historically significant and would be rehabilitated and reused as on-site amenities (such as recreation rooms, meeting rooms, and/or a museum). Asbestos abatement and lead-based paint removal in these buildings has been completed, except for the Guasti Market building. Rehabilitation of the market building may involve the removal and disposal of asbestos-containing materials (ACMs). As required by SCAQMD, any structure to be demolished or renovated must be surveyed for the possible presence of ACMs to allow for proper removal and disposal of ACMs. This is discussed further in Section 4.13, *Human Health and Hazards,* of this SEIR.

Diesel Exhaust

Toxic air contaminants (TACs) are gases, liquids, or particles that are emitted into the atmosphere and, under certain conditions, may cause adverse health effects, including cancer, acute non-cancer, and chronic non-cancer effects.

Construction equipment exhaust also contains carcinogenic compounds within diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. Public exposure to heavy equipment emissions will be an extremely small fraction of the above dosage assumption. Public exposure will be further minimized by the substantial distance separation between construction activity emissions and off-site sensitive receptors. Diesel equipment is also becoming progressively "cleaner" in response to air quality rules for new off-road equipment. Any public health risk associated with project-related heavy equipment operations exhaust is therefore not quantifiable, but very small.

Emitters of diesel particulate matter (DPM), a known carcinogen, include freeway trucks and diesel-powered trains near the site. Aircraft burn mainly kerosene and incomplete combustion of kerosene produces visible smoke. Such emissions, however, are not an identified toxic air contaminant (TAC). Airport activities use diesel-powered equipment in freight handling. However, airport activity diesel exposure risk assessments have found that risk levels at the project site are very low. Also, most transit buses around the airport and near the site use “clean” natural gas for fuel. Thus, freeway trucks and trains are the only TAC sources near the site.

Long-term exposure to DPM was calculated through a Health Risk Assessment (HRA) prepared in accordance with the guidelines of the California Office of Environmental Health, SCAQMD and CARB. For the HRA analysis, the average DPM emissions for diesel trucks on the freeway and for diesel-powered trains for the next 70 years was assumed to remain the same (no new control programs would be developed and that no alternate fuels would replace diesel from 2010-2080). It was also assumed that 40 to 41 freight trains plus 1 Amtrak trains run along the southern boundary per day, as existing.

The average excess cancer risk level from exposure to air toxics for the SCAB as a whole is approximately 1,200 to 1,400 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributor, with about 84 percent of all risk attributed to DPM. The project site is located in the area that is estimated to have a risk of approximately 1,250 in a million. With a continuing acceleration of DPM controls for both on-and off-road sources, risks have and will continue to decline.

In addition to this area-wide risk, local trains and trucks traveling near the site would increase cancer risks to future residents. The HRA considers both sources for site exposure. Trains on the UPRR tracks are estimated to generate almost the same DPM burden as the freeway truck traffic, as follows:

Tracks: 42 trains x 27.7 gram/mile/train = 1,163.4 gram/mile

Freeway: 12,000 trucks x 0.11 gram/mile/truck = 1,320.0 gram/mile

Because the railroad tracks are much closer to proposed residential uses, they pose a greater health risk. Specifically, cancer risk is calculated by multiplying the inhalation dose by the inhalation cancer potency factor to yield the potential inhalation cancer risk in excess of background levels. The cancer risk is expressed as the increase in risk during a 70-year exposure period. Assuming on-site exposure to DPM for 70 years, 365 days per year, 24 hours per day, the health risk is calculated at 265 in a million (265 persons out of 1,000,000 persons would develop cancer or 1 person has a 0.0265 percent chance of developing cancer due to diesel exposure from train emissions) at the southern property line near the railroad tracks.

At the southern section of the site, the calculated risk is 200 in a million. However, risk levels drop off rapidly with distance, and at a point mid-way between the southern and northern site boundaries, risk levels are at 100 in a million. Farther north, the increased setback from the tracks leads to a risk level of around 90 in a million for the northern half of the site. Figure 4.5-1, *70-Year Cancer Risk*, shows the relative cancer risk on the site due to DPM exposure. Since cancer risk would be greater than SCAQMD's 10 in a million threshold, this is considered a significant adverse impact.

Impact 4.5.3: Future residents of the site would be exposed to diesel exhaust that could pose health risks in the long-term.

This risk can be reduced by the use of highly upgraded ventilation and air purification systems. By creating an indoor air quality (IAQ) environment that is cleaner than outdoor or normal residential environments, the accumulated dose of air pollution to on-site residents will be lower than for residents living thousands of feet away from the tracks. Air filtration is expressed in terms of a "minimum efficiency reporting value", or MERV and application guidelines for MERV ratings are provided in Table 4.5-7, *MERV Ratings*.

TABLE 4.5-7
MERV RATINGS

MERV	Typical Efficiency	Particle Size Cut-Off	Typical Application	Filter Type
1-4	70%	10 μ	Minimum Residential	Disposable Synthetic
5-8	90%	3-10 μ	Better Residential	Pleated & Treated
9-12	96%	1-3 μ	Superior Residential	Bag or Cartridge
13-16	98%	0.3-1 μ	Hospital & Healthcare	Rigid Cell or Cartridge
Source: Health Risk Assessment, 2009				

The use of mechanical ventilation systems equipped with air purification systems that are rated MERV 13 would remove a minimum of 95 percent of DPM. These systems are routinely used in hospitals and elementary schools to protect particularly sensitive receptor populations. Thus, a substantial reduction in DPM exposure can be expected with MERV 13 systems that are used at on-site residential units.

The average California resident spends 30 minutes per day outside their home and 15.5 hours inside and another 8 hours away from home. By providing enhanced filtration that cleans ambient air, the DPM exposure dose for residents in Guasti Plaza can be maintained at substantially less than for other areas in Ontario. Table 4.5-8, *Mitigated Risk*, shows the excess cancer risk per million with the provision of enhanced filtration systems.

TABLE 4.5-8
MITIGATED RISK

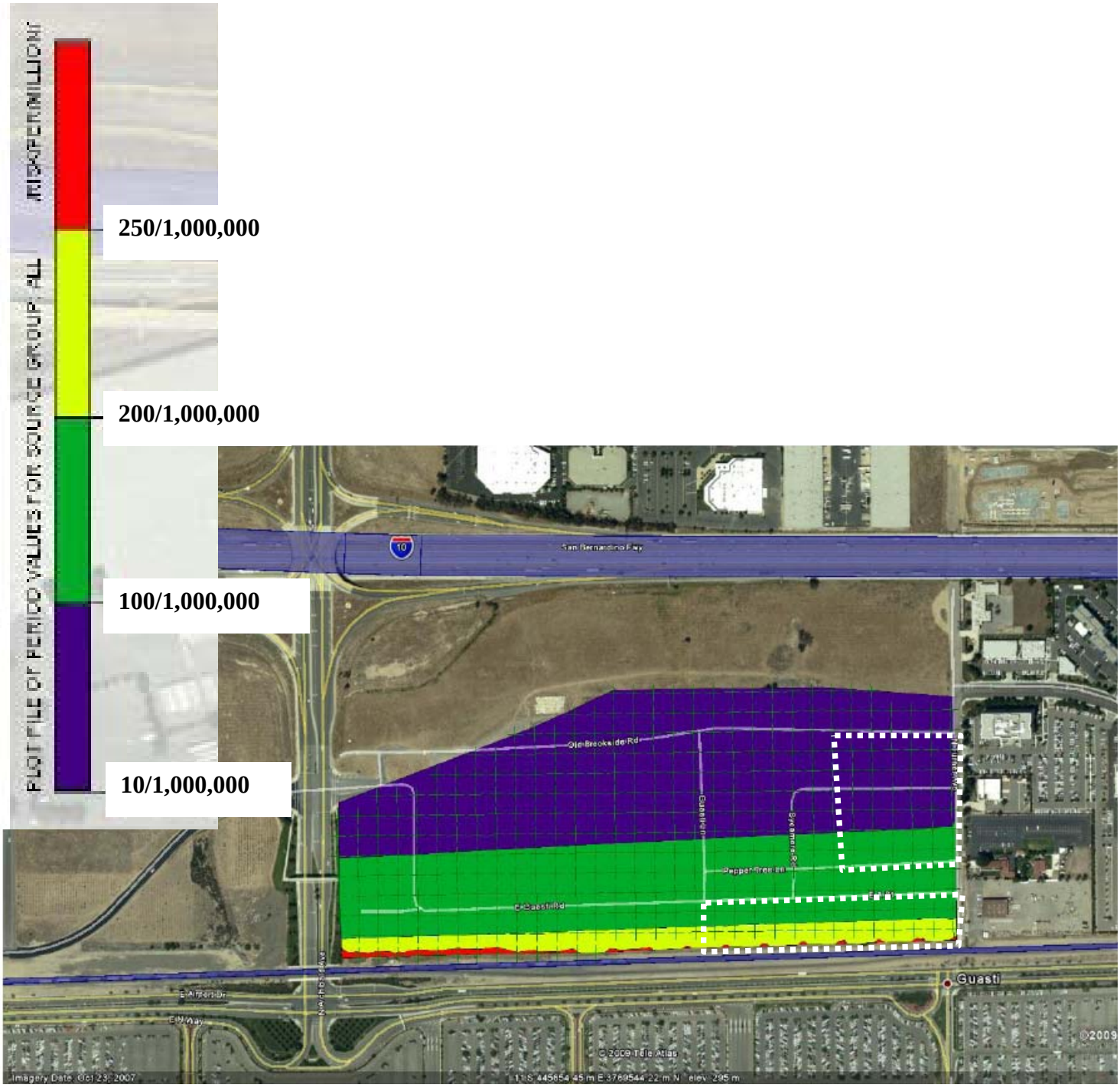
	Guasti Plaza	Other Areas
Background Risk **Local Risk**	1,250 +200	1,250 0
Outdoor Total Risk	1,450	1,250
Normal Indoor (75% reduction)	362	312
Enhanced Indoor (80~~95~~% reduction)	~~72.5~~290	n/a
Average Exposure *	~~115~~292	341
*(0.5 hours outdoors + 15.5 hours indoors)/16 Source: Health Risk Assessment, 2009		

Locating outdoor use areas in the center of the site and a dense tree canopy to serve as biofilters along the southern property line would also reduce health risks from train DPM. Indoor recreation areas would reduce exposure even more. As shown, the use of upgraded air filters on ventilation systems in all residential units would improve indoor air quality and an offset against outdoor air quality exposure would occur. The net lifetime exposure will then be less than that at residences away from major DPM sources not equipped with such upgraded air filtration.

Regional Air Quality Violations *(Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors? Would the project interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation?)*

Short-term construction and long-term operational emissions from future residential uses on the site would generate pollutant emissions that would contribute to cumulative air pollution levels in the air basin. These emissions include ROG, NOx, PM_{10} and $PM_{2.5}$ emissions that would lead to continued violations of ozone and particulate matter standards in the air basin. As discussed above, these impacts are considered significant and adverse, and mitigation is provided below to reduce these impacts.

Sensitive Receptors *(Would the project expose sensitive receptors to substantial pollutant concentrations?)*



Proposed Residential Overlay Zone

Source: Health Risk Assessment, 2009

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Figure 4.5-1
70-Year Cancer Risk

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Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. They include asthmatics, the elderly, very young children, people already weakened by other disease or illness (i.e., acutely and chronically ill persons, especially those with cardio-respiratory disease), and persons engaged in strenuous work or exercise. These persons are called "sensitive receptors". Residential areas are considered to be sensitive to air pollution exposure because they are occupied for extended periods, and residents may be outdoors when exposure is highest. Schools are similarly considered to be sensitive receptors due to the presence of young children. There are no sensitive receptors immediately adjacent to the project site.

The SCAQMD has recommended but not required that local significance thresholds (LST) be applied to CEQA analyses. However, the City of Ontario does not normally perform LST analyses. A Local Significance Threshold (LST) analysis is generally useful when there are residential uses within 0.25 mile of the construction site. There are no residences that close; thus, no LST analysis is provided.

No sensitive receptors would be present while the project is under construction. However, the proposed Specific Plan Amendment could lead to 500 multi-family dwelling units that would be occupied by a future sensitive receptor population. As discussed above, no CO hot spots would be created by vehicle emissions at nearby street intersections and sensitive receptors would not be adversely affected. Resident exposure to DPM would be mitigated, as discussed above. Residents that would be present on-site while other areas of the site are still under construction would be exposed to construction emissions that would be reduced by mitigation, as provided below. Impacts would be less than significant.

Objectionable Odors *(Would the project create objectionable odors affecting a substantial number of people?)*

Residential activities and residents of future residential development on the site are not expected to include or be involved in agriculture, wastewater treatment, or food processing, nor would the proposed Amendment allow land uses such as chemical plants, composting facilities, refineries, landfills, dairies, fiberglass molding facilities or other uses that generate objectionable odors. No sources of objectionable odors are located near the site and no sources of objectionable odors would be introduced by the proposed Amendment.

During construction, there may be localized instances when the characteristic diesel exhaust odor is noticeable from construction equipment and asphalt paving, but the mobile nature of equipment and the transitory exposure would be a brief nuisance and would not lead to the objectionable odors.

On-site trash bins would be covered and maintained regularly in accordance with standards outlined in the City's Municipal Code, with disposal of on-site solid wastes done at least weekly, as required by the City (Ontario Municipal Code Title 6, Chapter 3). No objectionable odors from on-site trash and that may affect a substantial number of people are expected. Impacts related to objectionable odors would be less than significant.

4.5.4 Previous Analysis

To the extent applicable, this Supplemental EIR tiers off previous environmental documents relating to the development of the project site, which include the EIR for the Guasti Plaza Specific Plan and the EIR for the Guasti Redevelopment Plan. The following discussion summarizes the similarities/differences in potential impacts between the previous documents and this Supplemental EIR and, where similar impacts are present, applicable policies, standard conditions or mitigation measures in the previous documents are identified for incorporation or implementation by the current project, where appropriate.

Guasti Plaza Specific Plan EIR
The EIR for the Guasti Plaza Specific Plan indicated that future development under the Specific Plan would generate short-term and long-term pollutant emissions. The EIR stated that the long-term impacts have been considered in the Ontario General Plan, SCAG Growth Management Plan, and SCAQMD Air Quality Management Plan (AQMP). Thus, the Specific Plan would not conflict with the AQMP. Also, future development under the Specific Plan would generate pollutant emissions associated with demolition, grading, construction, mobile sources, and off-site and on-site stationary sources. The EIR indicated that these pollutant emissions would add to local and regional air pollution levels of ozone and suspended particulates. Mitigation measures were identified to reduce the contribution of future development on the site to local and regional air quality. No potential for objectionable odors from future commercial, office, and hotel uses were expected. Unavoidable adverse impacts on regional air quality were expected.

Consistent with the EIR for the Guasti Specific Plan, construction and operational emissions are still expected under the proposed Amendment. While the construction and operational emissions of future development on the site may have been accounted for in the EIR's estimate of long-term air quality impacts, the estimates considered office uses, which could now be replaced with residential uses. Emissions from future residential uses are also expected to be less than those from office uses due to decreases in vehicle trip generation.

A number of mitigation measures were provided in the EIR for Guasti Plaza Specific Plan:

1. Prior to the issuance of any grading permit for each individual Planning Area, the applicant shall submit a comprehensive dust and erosion control plan to the City Building Official, as required by Ordinance No. 2548. This plan also is to conform to the SCAQMD's Rule 403 and other requirements regarding dust control, including but not limited to:
   - Phasing of grading activities to minimize the amount of cleared land at any given time;
   - Regular watering of cleared areas to prevent generation of dust;
   - Use of chemical or other soil stabilizing agents, where feasible;
   - Interim planting or other methods to stabilize soils in areas that must be kept cleared for extended periods of time;
   - Use of improved roads, where feasible, for construction traffic;
   - Adherence to appropriate speed limits within construction areas;
   - Use of sandbags to control and direct runoff;
   - Prompt revegetation after grading and construction is completed;
   - Suspension of grading operations during first and second stage smog alerts or when wind speed exceeds 25 miles per hour;

- Scheduling of construction operations affecting offsite roadways for off-peak traffic hours.

  This mitigation remains applicable to future residential development under the proposed Specific Plan Amendment.

2. Prior to issuance of any building permit, the applicant shall submit written documentation that the construction equipment to be used on the job has a 90-day, low-NOX tune up, and that idling time will be limited to no more than 10 minutes.

   This mitigation remains applicable to future residential development under the proposed Specific Plan Amendment.

Guasti Redevelopment Plan EIR

The EIR for the Guasti Redevelopment Plan stated that development and rehabilitation within the Project Area would be consistent with regional growth projections and, thus, would be consistent with the AQMP. The EIR indicated that construction and operational impacts from future development within the Project Area would generate emissions that would add to existing violations of State and Federal clean air standards. Also, emissions would impact sensitive receptors, although micro-scale impacts would be less than significant. Mitigation measures were provided to reduce impacts but long-term impacts would remain significant even after mitigation.

Construction and operational emissions are still expected under the proposed Amendment, as discussed in the EIR for the Guasti Redevelopment Plan. Similarly, no micro-scale impacts or objectionable odors are expected. However, there are no sensitive receptors near the site. Air quality impacts would also be significant due to continuing violations of ambient air quality standards for ozone and particulate matter.

A number of mitigation measures were provided in the EIR for Guasti Redevelopment Plan:

1. <u>Construction Activity</u>
   Although construction activity impacts are considered less than significant, construction in close proximity to sensitive receptors may have some potential for creating a temporary nuisance. Recommended construction activity mitigation includes:
   - Limit the simultaneous disturbance area to 5 acres or use enhanced dust control for any large single project
   - Terminate soil disturbance when winds exceed 25 mph
   - Stabilize disturbed areas if construction is delayed

   This mitigation remains applicable to future residential development under the proposed Amendment.

2. <u>Construction Activity</u>
   Implementation of the following mitigation measures would ensure that the impacts from construction activity would remain less than significant.
   - Require 90-day low-NOX tune-ups for off-road equipment
   - Limit allowable idling to 10 minutes for trucks and heavy equipment

This mitigation is similar to those in the Specific Plan EIR and remains applicable to future residential development under the proposed Specific Plan Amendment.

3. Construction Activity
   - Encourage carpooling for construction workers
   - Limit lane closures to off-peak travel periods
   - Park construction vehicles off traveled roadways
   - Wet down or cover dirt hauled off-site
   - Wash or sweep access points daily
   - Encourage receipt of materials during non-peak traffic hours
   - Sandbag construction sites for erosion control

   This mitigation includes dust control measures outlined in the Specific Plan EIR and remains applicable to future residential development under the proposed Amendment.

4. Construction Impact 3.3-4
   - Conduct pre-construction assessments for asbestos, lead-based paint or other hazards prior to demolition
   - Perform remediation consistent with air hazards criteria in SCAQMD rules and regulations, including Regulation 14.

   This mitigation has been implemented as part of demolition and land clearing activities at the site, as discussed in Section 4.13, Human Health and Hazards, but remains applicable to the Guasti Market building.

5. Operational Activity

   Project-related air quality impacts were shown to exceed SCAQMD thresholds by a large margin. Emissions reductions from newer cars will slightly offset any growth increment but not sufficiently to maintain a less-than-significant level of "new" emissions. Most likely, the same level of emissions would result for the no-project alternative as for the project. Mobile source emissions are, however, the largest impediment to the ultimate attainment of all clean are standards. Mitigation in the form of alternatives to the single occupant automobile (SOV), therefore, should be considered where possible. Transportation control measures (TCMs) should be included in the proposed redevelopment plan. Recommended TCMs include the following:
   - Promote ride-sharing, park and ride facilities, and public transportation.
   - Participate in the preparation of sub-regional, regional, or county-wide congestion management and growth management plans.
   - Utilize land use and zoning practices, including the siting of development projects, to minimize air quality impacts and protect "sensitive receptors."
   - Cooperate with local, regional, state and federal agencies to reduce vehicles miles traveled (VMT) and consequent emissions through job creation.
   - Reduce emissions from local government fleet vehicles by equipping fleet vehicles with enhanced emissions controls and by purchasing new fleet vehicles which use electricity, methanol, compressed natural gas, or other clean alternative fuels.

   This mitigation is not specifically applicable to future residential development under the proposed Specific Plan Amendment, as it applies to actions by the Redevelopment Agency and the City.

4.5.5 Standard Conditions and Mitigation Measures

Standard Conditions

Future residential development on the project site would generate pollutant emissions. The implementation of the following standard conditions would reduce air quality impacts:

Standard Condition 4.5.1: Future residential development shall comply with SCAQMD Rule 403 regarding fugitive dust control measures to be implemented during construction activities.

Standard Condition 4.5.2: Future residential development shall comply with City's Trip Reduction Ordinance requirements, through the provision of bike racks, sidewalks from public streets to each building; a passenger loading area; and transit facilities, such as bus shelters, bus pullouts, and bus pads.

Standard Condition 4.5.3: Future residential development shall implement energy conservation measures, as required under Title 24, Part 6, of the California Code of Regulations (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and the California Building Code.

Standard Condition 4.5.4: Future residential development shall comply with SCAQMD Rule 1403, as part of the rehabilitation of the Guasti Market and potential asbestos removal.

Standard Condition 4.5.5: Future residential development shall comply with pertinent SCAQMD rules and regulations for equipment used at the site.

Mitigation Measures

Consistent with the mitigation measures in the EIR for the Guasti Plaza Specific Plan and the EIR for the Guasti Redevelopment Plan, the following mitigation measures shall be implemented as part of future residential development under the proposed Amendment:

Mitigation Measure 4.5.1a: The applicant shall submit a comprehensive dust and erosion control plan to the City Building Official, as required by Ordinance No. 2548. This plan shall conform to SCAQMD Rule 403 and include the following Best Available Control Measures (BACMs) that shall be implemented during construction:

- *Apply water every 4 hours to the area within 100 feet of a structure being demolished, to reduce vehicle trackout.*
- *Use a gravel apron, 25 feet long by road width, to reduce mud/dirt trackout from unpaved truck exit routes.*
- *Apply dust suppressants (e.g., polymer emulsion) to disturbed areas upon completion of demolition.*
- *Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup.*
- *Prohibit demolition activities when wind speeds exceed 25 mph.*
- *Apply water every 3 hours to disturbed areas within a construction site.*

- *Require minimum soil moisture of 12% for earthmoving by use of a moveable sprinkler system or a water truck. Moisture content can be verified by lab sample or moisture probe.*
- *Limit on-site vehicle speeds (on unpaved roads) to 15 mph by radar enforcement.*
- *Replace ground cover in disturbed areas as quickly as possible.*
- *All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.*

- ~~*Phasing of grading activities to minimize the amount of cleared land to 5 acres at any given time;*~~
- ~~*Apply soil stabilizers to inactive areas.*~~
- ~~*Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.*~~
- ~~*Stabilize previously disturbed areas if subsequent construction is delayed.*~~
- ~~*Water exposed surfaces and haul roads 3 times each day.*~~
- ~~*Cover all stock piles with tarps.*~~
- ~~*Sandbag construction sites for erosion control and to direct runoff*~~
- ~~*Replace ground cover in disturbed areas as soon as feasible.*~~
- ~~*Use of improved roads, where feasible, for construction traffic. Otherwise, reduce speeds on unpaved roads to less than 15 mph.*~~
- ~~*Wet down or cover dirt hauled off-site*~~
- ~~*Wash or sweep access points daily*~~

Mitigation Measure 4.5.1b: The following measures shall be implemented to reduce exhaust emissions during construction:

- *Prior to issuance of any building permit, submit written documentation that the construction equipment to be used on the job has a 90-day, low-NOX tune up and provide continuous 90-day low-NOx tune-ups for off-road equipment.*
- *Limit allowable idling to 5 minutes for trucks and heavy equipment.*
- *Utilize equipment whose engines are equipped with diesel oxidation catalysts if available.*
- *Utilize diesel particulate filter on heavy equipment where feasible.*
- *Schedule construction operations affecting off-site roadways for off-peak traffic hours*
- *Encourage carpooling for construction workers*
- *Limit lane closures to off-peak travel periods*
- *Park construction vehicles off traveled roadways*
- *Encourage receipt of materials during non-peak traffic hours*

Mitigation Measure 4.5.1c: During construction, the contractors shall use low VOC coatings and high pressure-low volume sprayers for painting and coatings.

Mitigation Measure 4.5.2: Measures that reduce trip generation or trip lengths and that promote energy conservation would reduce long-term emissions and shall be implemented by future development. These include:

- *Bus turnouts and bus shelters on Archibald Avenue (as discussed in Section 4.4)*

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- *Provision of complete pedestrian pathways between the site and adjacent commercial uses*
- *Promote the use of bus transit through the provision of bus route schedules at lobbies*
- *Provision of bike racks (as required by the City's Trip Reduction Ordinance)*
- *Construction methods and use of energy efficient appliances that exceed Title 24 requirements (as discussed in Section 4.15)*

Mitigation Measure 4.5.3a: Future residential development shall be designed to locate common recreation areas with the greatest distance setback from the railroad tracks. Alternatively, common recreation areas shall be provided indoors.

Mitigation Measure 4.5.3b: All residential living areas shall be equipped with air filtration systems operating under positive pressure rated at MERV 13 or higher. Replacement filters shall be made available through the apartment management (or the property owners association for condominiums).

Mitigation Measure 4.5.3c: A dense tree canopy shall be established along the southern site boundary to act as a living biofilter for particulate air pollution.

4.5.6 Unavoidable Significant Adverse Impacts

Increases in pollutant emissions associated with the future residential development under the proposed Specific Plan Amendment are expected to result in significant adverse impacts on air quality.

Construction activity emissions will be below SCAQMD thresholds. Long-term traffic and area source emissions from residential uses would also not exceed SCAQMD thresholds and no micro-scale "hot spot' would be created by future residential development under the proposed Amendment.

However, the proposed residential development was not accounted in the development of regional projections for the City that was utilized in the development of the AQMP. Also, due to the non-attainment status of the air basin for particulate matter and ozone, pollutant emissions from the site could extend the attainment of air quality standards promoted by the AQMP.

ROG, NOx, PM_{10} and $PM_{2.5}$ emissions from construction activity and occupancy of the proposed residential development would contribute to existing violations of ozone, PM_{10} and $PM_{2.5}$ standards and would be inconsistent with the AQMP. Mitigation would reduce emissions but not to less than significant levels, as existing violations would remain. Thus, inconsistency with the AQMP would be unavoidable.

Diesel exhaust from trains and freeway trucks would lead to cancer risks above SCAQMD thresholds. However, use of enhanced filtration systems and other mitigation would reduce residential exposure to less than significant levels.

Implementation of the standard conditions and recommended mitigation measures would reduce air quality impacts from future residential development under the proposed Specific Plan Amendment. These standard conditions and mitigation measures would bring projected emissions below SCAQMD thresholds. However, impacts related to inconsistency with the

AQMP projections and contributions to existing air quality violations would remain significant and unavoidable.