

**RANCHO MISSION VIEJO  
AIR QUALITY REPORT**

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### **THE PROJECT**

The proposed project is the development of up to 14,000 dwelling units and other uses within the 22,815 undeveloped acres of Rancho Mission Viejo (the Ranch) in Southeastern Orange County that are unincorporated. The proposed development area is approximately 7,694 acres. Approximately 6,000 of the 14,000 dwelling units would be senior housing, and infrastructure, including schools, road improvements, utilities, and supporting neighborhood and activity centers, would be built to support the new residential development. Total development is anticipated to take 20 years. A total of 15,121 acres would be retained in open space. Construction would occur in 9 phases.

Bordering the proposed project on the west are the planned community of Ladera Ranch and the cities of Mission Viejo, San Juan Capistrano, and San Clemente. The City of Rancho Santa Margarita borders the northern edge of the project, Camp Pendleton in San Diego County is on the southern boundary, and to the east are Caspers Wilderness Park, the Cleveland National Forest and several private properties in Riverside and San Diego counties.

Grading is projected to occur over approximately 19 years and would be divided into seven phases, beginning in the year 2005 and extending through 2024. The peak period for potential air quality impacts during construction would occur between the beginning of 2013 and the end of 2016 during Phase 6 when the greatest amount of soil would be moved and the largest number of pieces of heavy equipment would be in use. Construction on previously graded areas would also be underway.

Present usage of the Ranch site includes agriculture and agriculture-related uses, including apiaries, packing plants for agricultural products, stables, commercial nurseries, facilities for on-site sale of agricultural products and employee housing. Other uses include research and development testing facilities, communication transmission facilities, sanitary landfills, utility structures, recycling facilities and surface mining. Some of these activities would continue until the area in which they are located is scheduled for grading and further development. In addition, some interim activities in support of the Ranch development would occur in areas slated for later development.

### **ENVIRONMENTAL SETTING**

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Orange County is in the South Coast Air Basin (SCAB), a 6,600-square-mile area comprised of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAB's climate and topography are highly conducive to the formation and transport of air pollution. Peak ozone concentrations in the SCAB over the last two decades have occurred at the base of the mountains around Azusa and Glendora in Los Angeles County and at Crestline in the mountains above the City of San Bernardino. Both peak ozone concentrations and the number of days the standards were exceeded decreased everywhere in the SCAB throughout the

1990s. Carbon monoxide concentrations also dropped significantly throughout the SCAB as a result of strict new emission controls and reformulated gasoline sold in winter months.

## **Regulatory and Planning Requirements for the South Coast Air Basin**

### **Federal Attainment Status**

Under the 1990 Clean Air Act, the SCAB was designated the nation's only "extreme" ozone (O<sub>3</sub>) non-attainment area, which it remained until the EPA "bumped up" the San Joaquin Valley Air Basin from "severe" to "extreme" in October 2001. "Extreme" ozone non-attainment areas were given until 2010 to achieve the national 1-hour ozone standard. Based on 1990 Clean Air Act criteria, the SCAB is also designated a "serious" non-attainment area for both carbon monoxide (CO) and respirable particulate matter (PM<sub>10</sub>).

The federal Clean Air Act sets CO and PM<sub>10</sub> attainment deadlines in "serious" non-attainment areas at 2000 and 2005, respectively. The 8-hour CO standard was not met in 2000. Although no CO standard was exceeded anywhere in the SCAB in 2001, the 8-hour federal standard was exceeded twice in 2000 in the South Central Los Angeles County Source-Receptor Area. EPA regulations specify that an area attains the CO standard when there are two years of data with no more than one exceedance at any one monitoring station. The 2003 AQMP states that the CO attainment requirements were met in 2002. However, the SCAQMD has not yet requested that the EPA redesignate the SCAB an attainment area.

The national nitrogen dioxide (NO<sub>2</sub>) standard was regularly exceeded in Los Angeles County until 1992, and the SCAB was the only NO<sub>2</sub> non-attainment area in the nation in 1998 when the EPA redesignated it "attainment."

In July 1997, the EPA promulgated a new 8-hour standard for ozone and a new standard for fine particulate matter (PM<sub>2.5</sub>). On April 15, 2004, the EPA released its list of 8-hour ozone non-attainment areas, together with the deadline for each non-attainment area to attain the standard. Areas with the highest 8-hour concentrations and the greatest number of days exceeding the new standard were given the longest time to reach attainment. The South Coast Air Basin is in the most severely degraded ozone category and was given 17 years, or until 2021, to reach the new 8-hour standard.

Designation of PM<sub>2.5</sub> non-attainment areas is also expected in late 2004 or sometime in 2005. Until these designations are made and the clock for meeting this new standard starts running, the existing federal PM<sub>10</sub> standards are the only particulate standards of reference for determining attainment.

### **State Standards**

California standards are generally stricter than national standards, but have no penalty for non-attainment. California and national ambient air standards, together with the health effects of each contaminant, are shown on Table 1.

**Table 1  
Ambient Air Quality Standards**

Air Pollutant	State Standard	National Standards		Health Effect
		Primary	Secondary	
Ozone (O <sub>3</sub> )	0.09 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	0.12 ppm, 1-hr. avg. 0.08 ppm, 8-hr. avg.	Aggravation of respiratory and cardiovascular diseases; Impairment of cardiopulmonary function
Respirable Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , 24-hr. avg. 20 µg/m <sup>3</sup> AGM	150 µg/m <sup>3</sup> , 24-hr. avg. 50 µg/m <sup>3</sup> AAM	150 µg/m <sup>3</sup> , 24-hr. avg.; 50 µg/m <sup>3</sup> AAM	Increased cough and chest discomfort; Reduced lung function; Aggravation of respiratory and cardio-respiratory diseases
Fine Particulate Matter (PM <sub>2.5</sub> )	No 24-hr., State std. 12µg/m <sup>3</sup> AGM	65µg/m <sup>3</sup> , 24-hr. avg. 15 µg/m <sup>3</sup> AAM	65 µg/m <sup>3</sup> , 24-hr. avg. 15 µg/m <sup>3</sup> AAM	
Carbon Monoxide (CO)	9.0 ppm, 8-hr. avg. 20 ppm. 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	None	Aggravation of respiratory diseases (asthma, emphysema)
Nitrogen Dioxide (NO <sub>2</sub> )	0.25 ppm, 1-hr. avg.	0.053 ppm, annual avg.	0.053 ppm, annual avg.	Aggravation of respiratory illness
Sulfur Dioxide (SO <sub>2</sub> )	.25 ppm 1-hr. 0.04 ppm, 24-hr avg.	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.5 ppm, 3-hr. avg.	Aggravation of respiratory diseases (asthma, emphysema)
Lead (Pb)	1.5 µg/m <sup>3</sup> , monthly avg.	1.5 µg/m <sup>3</sup> , calendar quarter	1.5 µg/m <sup>3</sup>	Impaired blood, nerve function; Behavioral and hearing problems in children
Visibility-Reducing Particles	Extinction coefficient of 0.23 per km, visibility of 10 miles at relative humidity less than 70%, 1 observation			
Sulfates (SO <sub>4</sub> )	25 µg/m <sup>3</sup> , 24-hr. avg.			Increased morbidity and mortality in conjunction with other pollutants
Hydrogen Sulfide (H <sub>2</sub> S)	0.03 ppm, 1-hr. avg.			Toxic at very high concentrations
Vinyl Chloride	0.010 ppm, 24-hr. avg.			Carcinogenic
Note: ppm = parts per million by volume      µg/m <sup>3</sup> = micrograms per cubic meter AAM = annual arithmetic mean                      AGM = annual geometric mean				
Source: California Air Resources Board, July 9, 2003				

**State Planning**

CARB approves the regional plans from each planning area in California for incorporation in the State Implementation Plan (SIP) for California. It also is responsible for preparing the portions

of the SIP related to mobile and many area source control measures and prepares advisory information on air pollution issues for use by other government entities.

### **Regional Planning**

The South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) jointly prepare the Air Quality Management Plan (AQMP) for the SCAB. The AQMP contains measures to meet California and federal requirements. When approved by CARB and the federal EPA, the AQMP becomes part of the SIP.

The agencies adopted new AQMPs in 1989 to meet national standards and in 1991 to meet California standards and revised them in 1994 and 1997. The EPA approved the 1994 AQMP in 1996 as part of the SIP. After the EPA announced that it had concerns about the ozone control strategies in the 1997 AQMP, the SCAQMD revised the document in 1999 to address the EPA issues. The revised plan, now known as the 1997/1999 AQMP, was approved by the EPA on May 10, 2000, and replaced the 1994 AQMP as the federally enforceable SIP for the SCAB.

The SCAQMD and SCAG revised the 1999 AQMP in 2003, and the SCAQMD adopted the revised plan as the 2003 AQMP on August 1, 2003. CARB approved the 2003 AQMP in October 2003 and forwarded it to the EPA. When approved, it will replace the 1999 AQMP as the SIP for the SCAB.

### **EXISTING AIR QUALITY**

The SCAQMD is responsible for monitoring air quality in the SCAB, and for adopting controls, in conjunction with CARB, to improve air quality. The SCAQMD has established "source-receptor" areas (SRA's) for monitoring air pollution, based on topographical and meteorological barriers. The project site is in SRA 21, Capistrano Valley, which is the southernmost portion of Orange County and extends from the mountains to the coast. The SCAQMD does not maintain a monitoring station in this SRA. The SCAQMD monitoring station for this forecast area, known as Inland Orange County, is in SRA 19, the Saddleback Valley.

Overall, air quality improved considerably throughout the SCAB in the 1990's. In 1990, the peak ozone concentration in SRA 19 was 0.19 ppm and the State ozone standard was exceeded 32 times. In 2002, the peak reading at that same station was 0.136 ppm and the State standard was exceeded 9 times. These improvements have occurred despite extensive population growth in Orange County during the twelve years.

Until the EPA officially designates PM<sub>2.5</sub> areas, the SCAQMD is monitoring levels of PM<sub>2.5</sub>. Where readings are available, the PM<sub>2.5</sub> concentrations are shown in Table 2 for information purposes. Readings for SRA 19 for the past five years, together with the applicable State and national standards, are shown in Table 2.

**Table 2**  
**Summary of Air Quality Data Saddleback Valley (Inland Orange County) SRA 19**

Pollutant Standards	1998	1999	2000	2001	2002
<b>Ozone (O<sub>3</sub>)</b>					
State standard (1-hr. avg. 0.09 ppm)					
National standard (1-hr. avg. 0.12 ppm)					
National standard (8-hr. avg 0.08 ppm)					
Maximum 1-hr concentration (in ppm)	0.16	0.10	0.13	0.125	0.136
Maximum 8-hr concentration (in ppm)	0.11	0.08	0.11	0.098	0.095
Number of days state standard exceeded	15	2	3	10	9
Days national 1-hr. standard exceeded	1	0	1	1	2
Days national 8-hr. standard exceeded	3	0	2	2	2
<b>Carbon Monoxide (CO)</b>					
State standard (1-hr. avg. 20 ppm)					
National standard (1-hr. avg. 35 ppm)					
State standard (8-hr. avg. 9.0 ppm)					
National standard (8-hr. avg. 9 ppm)					
Maximum concentration 1-hr. period (in ppm)	6.0	4.0	5.0	3.0	3.0
Maximum concentration 8-hr. period (in ppm)	3.1	2.5	3.3	2.38	3.6
Days state/nat'l 1-hr. standards exceeded	0	0	0	0	0
Days state/nat'l 8-hr. standard exceeded	0	0	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>1</sup></b>					
State standard (1-hr avg. 0.25 ppm)					
National standard (0.0534 AAM in ppm)					
Annual arithmetic mean (in ppm)	0.0200	0.0209	0.0205	0.0182	0.0187
Percent national standard exceeded	0	0	0	0	0
Maximum 1-hr concentration	0.12	0.12	0.11	0.08	0.11
Days state 1-hr. standard exceeded	0	0	0	0	0
<b>Suspended Particulates (PM<sub>10</sub>)<sup>1</sup></b>					
State standard (24-hr. avg. 50 µg/m <sup>3</sup> )					
National standard (24-hr. avg. 150 µg/m <sup>3</sup> )					
Maximum 24-hr. concentration	70	111	98 <sup>2</sup>	60	80
Percent samples exceeding state standard	10.2	10	3	5	8.3
Percent samples exceeding national standard	0	0	0	0	0
<b>Suspended Particulates (PM<sub>2.5</sub>)</b>					
National standard (24-hr. avg. 65 µg/m <sup>3</sup> )					
Maximum 24-hr. concentration	NM	56.6	94.7 <sup>2</sup>	53.4	58.5
Percent samples exceeding national standard		0	0	0	0
<sup>1</sup> Readings are from SRA 18 (North Coast Orange County—NO <sub>2</sub> not monitored in SRA 19) <sup>2</sup> Year 2000 PM <sub>10</sub> and PM <sub>2.5</sub> readings are from special monitoring station set up on temporary basis in SRA 19 and were the only PM <sub>2.5</sub> readings that year in SRA 19. PM <sub>10</sub> readings were from same monitoring station for comparison purposes. ppm = parts per million µg/m <sup>3</sup> = micrograms per cubic meter NM = Not Monitored. PM <sub>2.5</sub> monitoring began in 1999.					
Source: SCAQMD Air Quality Data—1998 through 2002					

### Summary of Existing Air Quality

Pollutant concentrations, particularly those of particulates, vary somewhat from year, depending on meteorological conditions. Although readings in SRA 19 for the past four years are basically unchanged for ozone and carbon monoxide, concentrations of the two pollutants are down from

those in 1998. For all other pollutants, they are basically unchanged over the five-year period. The area experiences relatively low ozone pollution compared to elsewhere in the SCAB, but concentrations are the highest in Orange County and both state and national standards are regularly exceeded. As is the case throughout Orange County, carbon monoxide levels have not exceeded state and national standards in the period. Particulate readings are relatively constant and well below national PM<sub>10</sub> standards, although they exceed State standards. The new national PM<sub>2.5</sub> standard would have been exceeded occasionally.

**SIGNIFICANCE THRESHOLDS**

A project's air quality impacts can be separated into short-term impacts due to construction and long-term permanent impacts from project operations. Determination of significant impact is the responsibility of the lead agency, which is the County of Orange (the County).

For air quality, the County relies on significance thresholds recommended by the SCAQMD in its CEQA Air Quality Handbook (the "SCAQMD CEQA Handbook"), as revised in November 1993 and approved by the SCAQMD's Board of Directors.

The SCAQMD's emission thresholds apply to all federally regulated air pollutants except lead, which is not exceeded in the SCAB. Construction and operational emissions are considered by the SCAQMD to be significant if they exceed the thresholds shown in Table 3.

<b>Table 3 Emissions Thresholds of Significance</b>			
Pollutant	Construction		Operations
	pounds/day	tons/quarter	pounds/day
Carbon Monoxide (CO)	550	24.75	550
Sulfur Oxides (SO <sub>x</sub> )	150	6.75	150
Particulate Matter (PM <sub>10</sub> )	150	6.75	150
Nitrogen Oxides (NO <sub>x</sub> )	100	2.5	55
Volatile organic compounds (VOC)	75	2.5	55
Source: SCAQMD CEQA Air Quality Handbook, 1993			

Carbon monoxide emissions from a project are significant if they cause CO concentrations at impacted locations to exceed a national or State standard or, in an area that already exceeds a standard, to increase CO concentrations by more than one part per million (ppm) averaged over one hour or 0.45 ppm averaged over eight hours.

In addition, the SCAQMD CEQA Handbook lists additional indicators of potential air quality impacts (Secondary Effects). Projects would have a significant impact if they would:

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

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- 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 release in emissions which exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people. An objectionable odor is defined in the Handbook as 1 over 10 dilution to thresholds (D/T).

If the total population accommodated by a new project, together with the existing population and the projected population from all other planned projects in the subarea, does not exceed the growth projections for that subarea incorporated in the most recently adopted AQMP, the completed project is consistent with the AQMP. The entire County of Orange is considered to be one subarea. The AQMP is region-wide and accounts for, and offsets, cumulative increases in emissions that are the result of anticipated growth throughout the region.

Sensitive receptors may warrant additional mitigation even when emissions are below the significance thresholds established by the SCAQMD. Ambient air standards are established to protect the average person from health effects associated with air pollution. The standards include an “adequate margin of safety.” However, some people are particularly sensitive to some pollutants. These sensitive people include persons with respiratory illnesses or impaired lung function because of other illnesses, the elderly, and children. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors.

The SCAQMD is currently revising its CEQA Handbook, which will be renamed the Air Quality Analysis Guidance Handbook when the revisions are complete. Chapters of the new Handbook are posted on the SCAQMD website as they are completed. To date, the following chapters have been revised:

Chapter 2 – Improving Air Quality and the AQMD’s Role

Chapter 3 – Basic Air Quality Information

Chapter 4 – Early Consultation and Sensitive Receptor Siting Criteria

None of the chapters that address significance thresholds, emission factors, modeling, assessment procedures, etc. has been revised to date, although the SCAQMD has issued new modeling guidelines for local governments to use in determining potential PM<sub>10</sub> concentrations on nearby sensitive receptors. Chapter 4 defines land uses considered to be sensitive receptors as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers and athletic facilities.



Odors associated with some projects may cause a nuisance that is not covered by the SCAQMD's emission thresholds. These odors may result during construction from disturbing soil that has formerly been saturated with an odoriferous substance or they may be associated with new uses that would occur after the project is completed.

In addition, emissions from some construction equipment and trucks could expose sensitive receptors to toxic air contaminants or completion of the project could expose future sensitive receptors to air toxics if the project is near an existing source of toxic emissions.

## **CONSTRUCTION IMPACTS**

Construction impacts may be regional or local and include airborne dust from demolition, grading, excavation and dirt hauling and gaseous emissions from the use of heavy equipment, delivery and dirt hauling trucks, employee vehicles, and paints and coatings. Regional pollutants, such as ozone, are those where emissions from many sources combine in the atmosphere and impact areas far removed from the emission sources. Local pollutants are those where the impacts occur very close to the source. Examples of the latter include carbon monoxide or large particulate matter (fugitive dust) that settles in the vicinity of the source and does not become airborne.

The proposed project is projected to take 20 years to be fully built out. Grading schedules developed by the project engineers show that grading would occur in seven phases over a 19-year period.

The peak construction day and quarter would occur in Phase 6 in the four years between the beginning of 2013 and the end of 2016. This is when the most cut and fill would be occurring, as well as the most heavy-duty construction equipment in use. The analysis assumes that the peak period would occur in the year 2014. Based on the phasing plan for the Ranch, there would be overlap with Phase 4 construction in areas that have been previously graded.

Both construction grading and operation emissions were analyzed with the California Air Resources Board model, URBEMIS2002. This computer model estimates both construction and operational emissions associated with the specific land uses associated with a project, including grading based on the total acreage and the time frame in which grading will occur. The model uses current CARB emission factors for automobile and truck emissions and EPA emission factors for equipment emissions and fugitive dust emissions. The model is approved for use on all projects in the South Coast Air Basin. Because the URBEMIS estimates of worker trips and truck trips is based on average construction requirements for total land uses in the project, the worker and truck trip estimates were based on assumed needs in 2014 and include worker trips and truck trips for other activities besides grading. Peak day emissions are shown in Table 4; total emissions are shown in Table 5. All numbers are rounded to the nearest whole number. Model runs are on file at the County of Orange and are available for review during regular business hours.

### **Grading and Excavation**

The total project would require 288,461,000 cubic yards of cut and fill and remedial grading. Of this, 107,957,000 cubic yards of soil movement would occur in Phase 6, resulting in an average

of 26,989,250 cubic yards in the year. Assuming 22 workdays per month, this would average 102,232 cubic yards per day. Since all soil would be balanced on the site being graded during each phase, the model assumes no on-road truck travel.

SCAQMD Rule 403, last amended April 2, 2004, governs fugitive dust emissions from construction projects. This rule sets forth a list of control measures that must be undertaken for any activity or man-made condition capable of generating fugitive dust to prevent, reduce or mitigate fugitive dust emissions. The rule applies to all construction projects with a disturbed area of five or more acres. In addition, large projects, which are defined as active operations on property which contains in excess of 50 acres of disturbed surface area or any operation which exceeds a daily earth-moving or throughput volume of 5,000 cubic yards three times over a 365-day period, must file a fully executed Large Operation Notification Form (Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a large operation under the rule. The rule sets forth a number of requirements regarding record keeping, as well as specific mitigation measures that must be contained in an approved dust-control plan. Recommended dust control measures are incorporated in the URBEMIS model.

Because the proposed project would exceed 50 acres and would move at least 5,000 cubic yards of dirt three or more times in a year during construction, the proposed project would be required to file a 403N form.

SCAQMD Rule 402, Nuisance, also would apply to this project. Most of the fugitive dust associated with construction is comprised of particles larger than 10 microns in diameter. While these larger particles settle out quickly and do not cause the health effects associated with the smaller sized particles (PM<sub>10</sub> and PM<sub>2.5</sub>), they can damage plants and property sufficiently to qualify as a nuisance. Rule 402 prohibits visible dust emissions from extending beyond the project boundaries. The same mitigation measures used to control PM<sub>10</sub> also control the larger, visible particles.

### **Equipment**

Based on Phasing Plan B4g: Grading, prepared by the project engineers, the analysis assumed that there would be a total of 69 pieces of heavy equipment required for the peak-grading day. Equipment would consist of very large dozers, some moderate to smaller dozers, graders, scrapers, etc. There would be a need for 6 off-road water trucks. All equipment is assumed to operate 8 hours/day.

### **Worker Trips**

The URBEMIS2002 model calculates daily worker trip emissions based on the land uses and amount of equipment.

### **Architectural and Asphalt Coatings**

The proposed schedule assumes partial construction of Planning Area 4 simultaneously with the peak grading period. Some VOC emissions would occur during this construction. The amount of these emissions will depend on the painting schedule and duration, as well as the season in which painting occurs. This is a small planning area. In order to more accurately depict a typical

worst-case day for VOC emissions from architectural coatings, the construction that will follow in Planning Areas 5, 6, and 7 which have the same boundaries as Grading Phase 6 was assessed for potential daily emissions from architectural coatings. These emissions are a high estimate. The project applicant will require that all coatings are SCAQMD-compliant

**Sensitive Receptors**

The California Air Resources Board has identified diesel particulate emissions as carcinogenic air toxics. Because much of the project area is remote from the nearest currently populated area, there are few identified sensitive receptors in the immediate vicinity of where most of the grading would occur. However, cancer risk is cumulative, based on lifetime exposure and CARB has not set a safe level for exposure to diesel exhaust. Therefore, exposure to any amount should be mitigated. Construction workers would be most at risk because of the large amount of diesel equipment that would be operating simultaneously. Workers should wear masks when working near diesel equipment or diesel trucks. All diesel equipment should be fitted with particulate traps.

<b>Table 4 Peak Day Construction Emissions (in pounds per day) Without Mitigation</b>					
Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM <sub>10</sub> )
Earthmoving/ Grading					12,047
Diesel-Powered Equipment	1,412	169	1,049	0	38
Worker Trips <sup>1/2</sup>	23/112	1/8	2/5	0	0/5
Architectural Coatings <sup>1</sup>		1,409			
MAXIMUM DAILY CONSTRUCTION EMISSIONS (highest phase)	1,435	1,417	1,051	0	12,085
SCAQMD Daily Significance Threshold	550	75	100	150	150
Significant?	YES	YES	YES	NO	YES
<sup>1</sup> Grading Phase <sup>2</sup> Architectural Coatings Phase  Source: URBEMIS 2002 model					

<b>Table 5 Peak Quarter Construction Emissions (in tons) Without Mitigation</b>					
Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM <sub>10</sub> )
Earthmoving/ Grading					397.55
Diesel-Powered Equipment	46.60	5.58	34.62	0	1.25
Worker Trips <sup>1/2</sup>	0.76/3.70	0.03/0.26	0.07/0.17	0	0/0.17
Architectural Coatings	0	46	0	0	0
TOTAL CONSTRUCTION EMISSIONS (highest phase)	49.70	46.26	34.69	0	398.80
SCAQMD Significance Thresholds for Construction	24.75	2.5	2.5	6.75	6.75
Significant?	YES	YES	YES	NO	YES
<sup>1</sup> Grading Phase <sup>2</sup> Architectural Coatings Phase Source: URBEMIS 2002 model					

### **Summary of Construction Impacts**

As shown in Tables 4 and 5, emissions of all pollutants except sulfur oxides would be very significant, based on SCAQMD thresholds of significance, without mitigation. CEQA requires that mitigation measures be employed to the maximum extent feasible.

### **CONSTRUCTION MITIGATION MEASURES**

As stated under Grading, the project qualifies as a “large project” under SCAQMD Rule 403 and the applicant is required to file a fugitive dust emissions control notice with the SCAQMD. The SCAQMD must determine that the project is implementing controls, as specified by the Rule, prior to the commencement of grading. The newly revised Rule 403 Implementation Handbook contains compliance guidelines for large operations and suggests dust control measures for incorporation in the fugitive dust emissions control plans, where applicable. Control measures are incorporated in the URBEMIS model.

The URBEMIS2002 model assumed the following mitigation measures:

- A. Water exposed surfaces three times a day.
- B. Use diesel particulate filter.
- C. Cover all stockpiles with tarps.
- D. Water all haul roads three times a day.
- E. Operate vehicles on unpaved roads at 15 mph or less.
- F. Apply soil stabilizers to inactive areas.
- G. Replace ground cover in disturbed areas quickly.

According to the URBEMIS model, these measures would reduce particulate emissions substantially. Remaining emissions are shown in Table 6.

<b>Table 6</b>					
<b>Peak Day Construction Grading Emissions After Mitigation (in pounds per day)</b>					
Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NOx)	Oxides of Sulfur (SOx)	Particulate Matter (PM <sub>10</sub> )
Total Daily Emissions Before Mitigation	1,435	170	1,051	0	12,085
Particulate Emissions Reduced					11,007
MAXIMUM DAILY CONSTRUCTION EMISSIONS AFTER MITIGATION	1,435	170	1,051	0	1,078
SCAQMD Significance Thresholds for Construction	550	75	100	150	150
Significant?	YES	YES	YES	NO	YES

### **Additional Mitigation Measures**

The following measure should be added to protect workers from exposure to toxic diesel air pollutants from equipment.

- A. Construction workers should wear masks when working near diesel equipment or trucks.

- B. Equipment should be turned off when not in use for longer than 5 minutes.

### **Construction Emissions After Mitigation**

As shown in Table 6, the recommended control measures would substantially reduce PM<sub>10</sub> emissions. Emissions of NO<sub>x</sub>, CO, VOC and PM<sub>10</sub> would remain significant after mitigation.

Heavy-duty equipment emissions are assumed with today's emissions standards. However, both CARB and the EPA are proposing new controls on off-road diesel equipment that should go into effect prior to the peak construction period. Equipment will comply with all control regulations in force at that time. NO<sub>x</sub> emissions are, therefore, substantially higher than what could be expected.

## **OPERATIONAL IMPACTS**

### **Regional**

The proposed project would contain up to 14,000 dwelling units. Approximately 6,000 of the 14,000 dwelling units would be senior housing, and infrastructure, including schools, road improvements, utilities, and supporting neighborhood and activity centers, would be built to support the new residential development. The Traffic Consultant, Austin-Foust Associates, Inc. estimates that these land uses would generate 183,338 trip ends daily.

The primary source of operational emissions would be vehicle travel. A small amount of gaseous emissions would occur from use of natural gas and other area sources. There would also be some indirect emissions from electricity usage. Landscaping emissions are principally those associated with garden equipment such as mowers, leaf blowers, etc. Consumer products are principally gaseous emissions from sources commonly associated with residential and commercial land uses. They include hair sprays, household and industrial cleaning solvents, floor cleaners and waxes, colognes and deodorants, etc.

To compare with current conditions, air quality was also estimated for total buildout assuming it was completed in 2005. Vehicle and area emissions were calculated with the California Air Resources Board model (URBEMIS2002), adjusted with total trips for the project supplied by the traffic consultant. Emissions were calculated for both summer and winter conditions. Existing traffic was estimated for 2004 by the traffic consultant, as well as cumulative and project-related traffic at buildout in 2025. These traffic numbers were combined to develop an existing scenario in 2005. NO<sub>x</sub> emissions are higher in winter because of heating with natural gas; ROC emissions are slightly higher in summer because of landscaping. To show a worst case, the higher number for each pollutant is used in Table 6.

Air quality as it would be in 2005 is shown in Table 7. Air quality at the presumed time of buildout is shown in Table 8.

<b>Table 7</b>					
<b>Proposed Project Operational Emissions in pounds per day (2005)</b>					
Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NO <sub>x</sub> )	Oxides of Sulfur (SO <sub>x</sub> )	Particulate Matter (PM <sub>10</sub> )
Traffic Emissions	19,577	1,894	2,477	16	1,443
Consumer Products and Landscaping	119	699	2	4	1
Natural Gas Emissions	73	13	173	0	0
<b>TOTAL PROJECT EMISSIONS</b>	<b>19,769</b>	<b>2,606</b>	<b>2,652</b>	<b>20</b>	<b>1,444</b>
SCAQMD Significance Thresholds for Operation	550	55	55	150	150
Significant?	YES	YES	YES	NO	YES
Emissions calculated with URBEMIS2002					

<b>Table 8</b>					
<b>Proposed Project Operational Emissions in pounds per day (2025)</b>					
Source Category	Pollutant				
	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Oxides of Nitrogen (NO <sub>x</sub> )	Oxides of Sulfur (SO <sub>x</sub> )	Particulate Matter (PM <sub>10</sub> )
Traffic Emissions	4,073	495	330	10	1,434
Consumer Products and Landscaping	62	691	1	2	0
Natural Gas Emissions	73	13	173	2	0
<b>TOTAL PROJECT EMISSIONS</b>	<b>4,208</b>	<b>1,199</b>	<b>504</b>	<b>14</b>	<b>1,434</b>
SCAQMD Significance Thresholds for Operation	550	55	55	150	150
Significant?	YES	YES	YES	NO	YES
Emissions calculated with URBEMIS2002 . Data from BonTerra Consulting and Austin Foust Associates.					

## **Significance**

As shown in both Tables 7 and 8, operation of the proposed project would result in significant emissions of all pollutants except sulfur oxides on a regional scale. However, because of fleet turnover to vehicles with already implemented emission controls and because of the implementation of already adopted but future effective vehicle emissions controls, total emissions in 2025 would be considerably lower than they would be if the project were operative in 2005. There would be some odors, such as from cooking and gardening, associated with residential uses, but those odors are not considered significant on a regional scale. Local odors would be no different than in any other residential area with supporting services and would not be significant. The proposed land uses would not significantly contribute to background air toxics.

No additional mitigation beyond that assumed by the Traffic Consultant was assumed for traffic emissions. These adverse impacts are significant and unavoidable. Some additional mitigation for area source and landscaping emissions may be available through design features that can be required at the time specific plans are prepared. However, impacts would remain significant.

## **Local**

The purpose of the local analysis is to determine if the proposed project could cause or contribute to carbon monoxide hot spots (locations where the CO concentrations exceed a State or national CO standard). Because of carbon monoxide controls that have been implemented in the past decade, the number of potential CO hotspots has greatly decreased everywhere in the SCAB. The potential hotspots will continue to decline in the foreseeable future as background levels go down. Because the entire SCAB has been an attainment area for all 1-hour CO standards for more than five years, the 8-hour CO standards are the critical standards for assessing hotspots. No CO standard has been exceeded in Orange County since 1992, and the SCAQMD's 2003 AQMP demonstrates attainment of all standards throughout the Basin, as well as continued maintenance of that status. Background CO levels are projected to decline until 2010 and remain stable thereafter despite continued projected population and traffic growth.

The SCAQMD requires that current or projected background CO concentrations at the air monitoring station nearest a project be added to modeled concentrations. This addition is intended to provide an extra measure of safety to account for any amount of carbon monoxide that might be in the ambient air. In general, this requirement means that the analysis is very conservative because CO dissipates within a few hundred feet of where it is emitted. Since cumulative traffic from sources other than the proposed project is included in the traffic analysis, the modeling accounts for almost all the CO that could be present.

The background concentration is indicative of conditions near the monitoring station, which is in an area of high traffic volume, not where the project would have the greatest impact. CO concentrations are projected to continue to decline until at least 2010 and the SCAQMD has generated a table of estimated future one-hour and eight-hour CO concentrations at each of its monitoring stations that account for this decrease through the year 2020. In this analysis 2025 traffic is used with Year 2020 projected background levels. Because background carbon monoxide concentrations have declined substantially, actual 2002 CO concentrations are much



lower than those predicted by the SCAQMD for that year. Predicted year 2020 concentrations may be similarly overstated.

The traffic consultant's estimates of future traffic volume were used to determine the potential for future hotspots developing as a result of the proposed project. All of the future traffic projections in the traffic report include the cumulative traffic impacts resulting from related projects that could be built in the project vicinity between now and 2025.

The following intersections were modeled with CARB's Caline 4 model: Marguerite Parkway and Avery Parkway, I-5 SB Ramps at Avenida Pico, and SR-241 SB Ramps at Oso Parkway. Intersections were selected for modeling on the basis of whether they currently exist, would experience relatively heavy traffic from both the project and other sources, and would experience a substandard LOS (LOS F) when both cumulative traffic and traffic from the proposed project are combined. The SCAQMD has determined that intersections with an LOS of C or better would not exceed existing CO standards.

Eight-hour concentrations were assumed at 70% of the modeled one-hour concentration, consistent with Caltrans, CARB and SCAQMD guidelines. Emission factors were those contained in EMFAC2002, V2.2 issued September 23, 2002. Receptors were set at three meters from the roadway edges. Both one-hour and eight-hour concentrations in 2005 are shown in Table 9 and Table 10 shows concentrations in 2025..

The traffic consultant's estimates of existing traffic in 2003 and future traffic volume in 2025 were used to determine the potential for future hotspots developing as a result of the proposed project. All of the future traffic projections in the traffic report include the cumulative traffic impacts resulting from related projects that could be built in the project vicinity between now and 2025.

The following intersections were modeled with CARB's Caline 4 model: Marguerite Avenue and Avery Parkway, I-5 SB Ramps at Pico Street, and SR-241 SB Ramps at Oso Parkway. Intersections were selected for modeling on the basis of whether they currently exist, would experience relatively heavy traffic from both the project and other sources, and would experience LOS F with the project. The SCAQMD has determined that intersections with an LOS of C or better would not exceed existing CO standards. Decreases in CO concentrations at some intersections between existing levels and those in 2006 are the result of decreases in per-vehicle emissions resulting from fleet turnover with new, better-controlled vehicles.

Eight-hour concentrations were assumed at 70% of the modeled one-hour concentration, consistent with Caltrans, CARB and SCAQMD guidelines. Emission factors were those contained in EMFAC 2002, V2.2 issued September 23, 2002. Receptors were set at three meters from the roadway edges.

**Table 9**

**Carbon Monoxide Concentrations at Most Impacted Intersections (in ppm)  
Existing Plus Cumulative Plus Project (2005)**

Intersection	Time	Monitored CO <sup>a</sup>	Modeled Existing Traffic	Adjusted CO Existing Traffic	Projected CO (2005) <sup>b</sup>	Modeled CO Cumulative No Project	Adjusted CO Cumulative No Project	Modeled CO Cumulative with Project	Adjusted CO Cumulative with Project <sup>c</sup>
<b>One Hour</b>									
Marguerite Parkway/ Avery Parkway	AM	6.0	4.7	10.7	6.0	1.1	7.1	1.1	7.1
I-5 SB Ramps/ Avenida Pico	AM	6.0	4.9	10.9	6.0	1.1	7.1	1.1	7.1
SR-241 SB Ramp/ Oso Parkway	AM	6.0	3.3	9.3	6.0	0.6	6.6	1.2	7.2
Marguerite Parkway/ Avery Parkway	PM	6.0	6.3	12.3	6.0	1.3	7.3	1.3	7.3
I-5 SB Ramps/ Avenida Pico	PM	6.0	5.9	11.9	6.0	1.3	7.3	1.4	7.4
SR-241 SB Ramp/ Oso Parkway	PM	6.0	3.1	9.1	6.0	0.6	6.6	1.7	7.7
<b>Eight Hour</b>									
Marguerite Parkway/ Avery Parkway	AM	3.1	2.80	5.90	3.1	0.77	3.87	0.77	3.87
I-5 SB Ramps/ Avenida Pico	AM	3.1	3.43	6.53	3.1	0.77	3.87	0.77	3.87
SR-241 SB Ramp/ Oso Parkway	AM	3.1	2.31	5.41	3.1	0.42	3.52	0.84	3.94
Marguerite Parkway/ Avery Parkway	PM	3.1	4.41	7.51	3.1	0.91	4.01	0.91	4.01
I-5 SB Ramps/ Avenida Pico	PM	3.1	4.13	7.23	3.1	0.91	4.01	0.98	4.08
SR-241 SB Ramp/ Oso Parkway	PM	3.1	2.17	5.27	3.1	0.42	3.52	1.19	4.29

<sup>a</sup> CO concentration measured in 2002 at SRA 19 monitoring station

<sup>b</sup> SCAQMD projected concentration in 2005 assumed at 2002 levels (Source: [www.AQMD.org](http://www.AQMD.org))

<sup>c</sup> Project would not have a significant impact because no concentration exceeds the most stringent 1-hour CO standard of 20 ppm or the most stringent 8-hour standard of 9.0 ppm

**Table 10  
Carbon Monoxide Concentrations at Most Impacted Intersections (in ppm)  
Existing Plus Cumulative Plus Project (2025)**

Intersection	Time	Monitored CO <sup>a</sup>	Modeled Existing Traffic	Adjusted CO Existing Traffic	Projected CO <sup>b</sup>	Modeled CO Cumulative No Project	Adjusted CO Cumulative No Project	Modeled CO Cumulative with Project	Adjusted CO Cumulative with Project <sup>c</sup>
<b>One Hour</b>									
Marquerite Parkway/ Avery Parkway	AM	3.0	4.7	7.7	5.1	1.1	6.2	1.1	6.2
I-5 SB Ramps/ Avenida Pico	AM	3.0	4.9	7.9	5.1	1.1	6.2	1.1	6.2
SR-241 SB Ramp/ Oso Parkway	AM	3.0	3.3	6.3	5.1	0.6	5.7	1.2	6.3
Marquerite Parkway/ Avery Parkway	PM	3.0	6.3	9.3	5.1	1.3	6.4	1.3	6.8
I-5 SB Ramps/ Avenida Pico	PM	3.0	5.9	8.9	5.1	1.3	6.4	1.4	6.5
SR-241 SB Ramp/ Oso Parkway	PM	3.0	3.1	6.1	5.1	0.6	5.6	1.7	6.8
<b>Eight Hour</b>									
Marquerite Parkway/ Avery Parkway	AM	3.6	2.80	6.40	1.8	0.77	2.57	0.77	2.57
I-5 SB Ramps/ Avenida Pico	AM	3.6	3.43	7.03	1.8	0.77	2.57	0.77	2.57
SR-241 SB Ramp/ Oso Parkway	AM	3.6	2.31	5.91	1.8	0.42	2.22	0.84	2.64
Marquerite Parkway/ Avery Parkway	PM	3.6	4.41	8.01	1.8	0.91	2.71	0.91	2.71
I-5 SB Ramps/ Avenida Pico	PM	3.6	4.13	7.73	1.8	0.91	2.71	0.98	2.78
SR-241 SB Ramp/ Oso Parkway	PM	3.6	2.17	5.77	1.8	0.42	2.22	1.19	2.99

<sup>a</sup> CO concentration measured in 2002 at SRA 19 monitoring station

<sup>b</sup> SCAQMD projected concentration in 2020 (Source: [www.AQMD.org](http://www.AQMD.org))

<sup>c</sup> Project would not have a significant impact because no concentration exceeds the most stringent 1-hour CO standard of 20 ppm or the most stringent 8-hour standard of 9.0 ppm

## Summary of Operational Impacts

As shown in Tables 7 and 8, the project would have a significant adverse impact on all regional emissions except for sulfur oxides in either 2005 or 2025. However, emissions would be much lower in 2025 because of new vehicle controls. Tables 9 and 10 show that no intersection would exceed the strictest CO standard, which is the State 8-hour standard of 9.0 ppm, in either 2005 or 2025 even after adding background concentrations. Already low CO concentrations would be even lower in 2025. Therefore, there would be no significant adverse impacts on local air quality with operation of the project.

## **ALTERNATIVES**

Ten alternatives, including the proposed Ranch project and no project, were analyzed. Key characteristics of each alternative are shown in Table 11.

<b>Alternative</b>	<b>Acres of Development</b>	<b>Acres of Open Space</b>	<b>Dwelling Units</b>	<b>Million Sq. Ft. Employment</b>	<b>Acres of Golf Resort</b>	<b>Average Daily Trips</b>
A-1: No Action	0	No new dedications	No new	0	0	0
A-2: Existing Zoning	19,822	No new dedications	3,265	0 <sup>b</sup>	0	29,878
B-4: Proposed Project	7,694	15,121	14,000	5.2	20	183,338
B4-R: Project, Reduced Density	6,589	16,226	10,800	2.7	25	137,844
B-5: No Development in San Mateo Watershed	7,170	15,645	14,000	5.58	0	183,906
B-6: No New Disturbance in San Mateo Watershed	6,740	10,075	14,000	5.58	0	183,906
B-8: No Development in Chiquita Canyon and San Mateo Watershed	3,680	19,135	8,400	2.48	0	126,925
B-9: Working Group Proposal	6,582	16,233	13,600	5.2	25	183,906
B-10: County of Orange Proposal	7,627	15,188	14,450	5.595	25	183,360
B-11: OCP-2004 Housing	8,565	14,250	19,200	3.64	25	191,911

*Source: BonTerra Consulting and The Ranch Plan EIR Traffic Report, Austin-Foust Associates, April 2004*

Construction and operational impacts are compared qualitatively to the proposed project, as analyzed above

## **No Action (Alternative A-1)**

### **Description**

Alternative A-1 is the “No Action”, as required pursuant to CEQA. This alternative assumes existing conditions on RMV property and continued use of the RMV property for existing agricultural, livestock, resource extraction, and lease activities. No additional residential or other urban uses would be proposed.

### **Air Quality Impact**

While there are some uses currently on the property that contribute air pollutants to the ambient air, the specific land uses have not been sufficiently quantified by size and location to assess the amount of pollution they are currently emitting. In any event, they are very low compared to emissions from alternative proposals. Therefore, emissions from this alternative are assumed at zero.

## **Existing Zoning (Alternative A-2)**

### **Description**

Alternative A-2 is based on existing General Agricultural zoning (1 dwelling unit per 4 acres). Development would be large-lot residential development, agricultural uses and sand/gravel mining, resource extraction activities in conformance with the existing zoning code without preparing a NCCP/HCP or SAMP/MSAA. This would provide for approximately 3,265 single-family dwelling units throughout the Ranch Plan areas accessible by existing ranch roads. This alternative would result in about 19,822 acres of the Ranch Plan area being subdivided (See Exhibit 1-6). Resource extraction and related uses would be allowed to continue and potentially expand within 1,620 acres of designated areas consistent with existing zoning (i.e., in Planning Area 5). About 75 percent of the project site would be in open space; however, it would not be publicly dedicated, but occurring within small estate lot parcels owned by individual homeowners and along the ridges and slopes deemed unsuitable for development.

### **Air Quality Impacts**

This project would result in less cut and fill but would eventually result in more acres developed rather than remaining in open space. However, there would be fewer particulate emissions from grading because of reduced cut and fill. More surface area could be temporarily exposed, depending on what type of agricultural uses would remain. Operational emissions would be much lower.

## **Alternative B-5: No New Development in San Mateo Watershed**

Alternative B-5 would provide 14,000 dwelling units and 406 acres of non-residential uses, for a total of 7,170 acres of new development (See Exhibit 1-7). This alternative assumes 6,000 senior units, over four million square feet of business park and slightly over 1.5 million square feet of urban activity center. This alternative would achieve a jobs/housing balance onsite. Approximately 15,645 acres (69 percent) of the Ranch Plan site would be designated as

permanent open space. The amount of open space dedication versus acquisition area has not been defined. This alternative is distinguished from the Ranch Plan because no future development would be permitted within the San Mateo Creek watershed. Existing leases and continued ranching/farming activities would be permitted in the Verdugo sub-basin and San Mateo Creek watersheds. Development would be intensified in the areas where development is permitted to enable the 14,000 dwelling units to be constructed.

### **Air Quality Impacts**

This alternative would result in potentially less grading than the proposed project during construction, but there are no estimates of the amount of cut and fill that would be required. The same issues related to maintaining jobs/housing balance on the site addressed under OCP 2000 (Alt. B-11) would apply to Alternative B-5. The higher employment would otherwise result in slightly more trips than with the proposed project; therefore, operational impacts would be higher than with the proposed project.

### **Alternative B-6: No New Disturbance in San Mateo Watershed**

#### **Description**

Alternative B-6 would avoid future development within the Chiquita sub-basin east of Chiquita ridge and Verdugo Canyon sub-basin. Development would be concentrated in areas in the San Juan Creek watershed, with new development in the San Mateo Creek watershed limited to areas already disturbed by past uses. This alternative would have provided for 14,000 dwelling units on approximately 6,334 acres. Additionally, 406 acres of non-residential use would be provided. This alternative would provide for 16,075 acres or approximately 70 percent of open space. The amount of open space dedication area versus acquisition area has not been defined. Development would be intensified in the areas where development is permitted to enable the 14,000 dwelling units to be constructed.

#### **Air Quality Impacts**

This alternative should result in less cut and fill and therefore fewer construction emissions than the proposed project. This alternative would result in slightly more trips than with the proposed project; therefore, operational impacts would be higher than with the proposed project.

### **Alternative B-8: No Development in Chiquita Canyon and San Mateo Watershed**

#### **Description**

This alternative would allow new development in Planning Areas 1, 3 and 5 of the Ranch Plan. It would provide for 8,400 dwelling units on 3,680 acres. Additionally, there would be 192 acres of non-residential development, which would permit 2,488,000 square feet of non-residential uses. There would be no age-restricted housing. The alternative would provide for 19,135 acres, or 84%, of the property to remain in open space.

## **Air Quality Impacts**

This alternative has the fewest developed acres, the fewest number of housing units, and the fewest square feet of any of the development alternatives and the most natural open space. It would, therefore, have the least adverse impact on air quality from both construction and operation.

### **Alternative B-9: Working Group Proposal**

#### **Description**

This alternative was developed in conjunction with the NCCP/SAMP Working Group to maximize compliance with the Planning Principals and Guidelines. It would provide for 13,600 dwelling units on 6,789 acres. Additionally, there would be 381 acres of non-residential development for a total of 7,170 acres and a total of just over 5,000,000 square feet of non-residential uses. There would be 6,600 senior housing units. There would be two golf courses. The alternative would provide for 16,233 acres, or 71%, of the property to remain in permanent open space.

#### **Air Quality Impacts**

This alternative would result in fewer acres being developed than the proposed project, slightly fewer housing units, and the same amount of employment. It would result in slightly fewer adverse impacts on air quality during both construction and operation than would the proposed project.

### **Alternative B-10: County of Orange Proposal**

#### **Description**

This alternative was developed by the County of Orange. It would allow the development of 14,450 dwelling units, 6,000 of which would be senior housing. It would also allow approximately 5,000 square feet of non-residential uses. New development would total 7,683 acres, of which 25 acres would be for a golf course and resort. Approximately 15.132 acres, or 66 percent, of the site would be set aside as permanent open space. This alternative differs from the Proposed Ranch Plan in that no development would be allowed in Planning Area 9 and there would be less development in Planning Area 6. There would be more development in Planning Area 4. Approximately 15,132 acres, or 66 percent, would be designated as permanent open space. The location of regional parkland would also differ.

#### **Air Quality Impacts**

Overall, the impacts from this alternative would not be significantly different than with the proposed project, although the number of dwelling units and square feet of employment are higher. There would be slightly fewer acres of development. However, the project would result in only 42 trips per day more than would the proposed project. Therefore, air quality impacts from both construction and operation are approximately the same for both B-10 and B-4.

## **Alternative B-11: OCP 2000)**

### **Description**

Alternative B-11 assumes development of the project site based on the County's OCP 2000 housing projections. This alternative would provide for 19,200 dwellings units and provide for a jobs/housing balance within the Ranch Plan boundaries. The focus of this alternative is on the provision of new housing consistent with long-term development/housing need projections provided by the SCAG and the County of Orange. Additionally, since these are the growth projections used by the SCAG and the AQMD, this alternative at this level of development has been assumed in other local and regional planning documents.

### **Air Quality Impacts**

This alternative would result in the most developed land area except for existing zoning. Construction emissions would be higher than with the proposed project. It would provide for the most housing, although employment would be less than with the other development alternatives. Architectural coating emissions would be somewhat greater. Based on the traffic report, it would result in the highest number of trips and therefore the greatest amount of operation emissions.