

4.9 AIR QUALITY

The analysis in this section is based on the report entitled *Air Quality Conformity Assessment Batiquitos Bluffs Residential Development—Encinitas, CA* prepared by Investigative Science and Engineering, Inc. and dated August 2005.

4.9.1 EXISTING CONDITIONS

San Diego County's climate is characterized by warm, dry summers and mild, wet winters and is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell maintains clear skies over the air basin for much of the year. It also drives the dominant onshore circulation and helps to create subsidence inversions during the warmer months and radiation inversions during the winter months, both of which contribute to local air quality degradation.

Air quality is defined by ambient air concentrations of specific pollutants determined by the Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the public. The subject pollutants, which are monitored by the EPA, are Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), respirable 10-micron particulate matter (PM₁₀), sulfates, lead, Hydrogen Sulfide (H₂S), Volatile Organic Compounds (e.g., vinyl chloride, etc.), and visibility reducing particles. The EPA (under the Federal Clean Air Act of 1970, amended in 1977) established ambient air quality standards for these pollutants. This standard is called the National Ambient Air Quality Standards (NAAQS). The California Air Resources Board (CARB) subsequently established the more stringent California Ambient Air Quality Standards (CAAQS). Areas in California where ambient air concentrations of pollutants are higher than the state standard are considered to be in "non-attainment" status for that pollutant. For a description of each pollutant, observed pollutant concentrations, and state and federal standards associated with each pollutant, see the air quality technical report, attached as Appendix N to this EIR.

The project site is located in the northeastern portion of the City of Encinitas, California, immediately adjacent to the City of Carlsbad. The project site is located in the southwest portion of the San Diego Air Basin (SDAB). According to the San Diego Air Pollution Control District (SDAPCD), the basin is either in attainment or unclassified for federal standards of CO, SO₂, NO₂, PM₁₀, and lead. The Basin continues to have a transitional-attainment status of federal standards for ozone. San Diego County areas are in attainment of state air quality standards for all pollutants with the exception of ozone (O₃) and PM₁₀.

4.9.2 BASIS FOR DETERMINING SIGNIFICANCE

A proposed project would have a significant impact on air quality if any one or more of the following conditions would occur as a result of the project:

1. *Air emissions that would substantially deteriorate ambient air quality, including the exposure of sensitive receptors to substantial pollutant concentrations.*
2. *The creation of objectionable odors to sensitive receptors.*
3. *Grading that results in the creation of substantial amounts of Particulate Matter 10 (dust).*

4. *A substantial negative effect on the ability of the Regional Air Quality Strategy (RAQS) to meet the federal and state clean air standards, or conflict with the implementation of other regional air quality plans.*

4.9.3 IMPACT ANALYSIS

Issue 1: *Would implementation of the proposed project result in air emissions that would substantially deteriorate ambient air quality, including the exposure of sensitive receptors to substantial pollutant concentrations?*

A. DISCUSSION OF PROJECT IMPACTS (ISSUE 1)

The project proposes to construct a total of 19 residential homes. Sensitive receptors within the project area include a senior housing facility to the south and east (currently under construction) and an existing residential neighborhood located west of the site.

Proposed construction activities would include the grading of approximately 9.86 acres of the proposed project site (19,000 cubic yards) and the application of paint and other construction materials which could create volatile organic gases. Grading operations would result in the emission of dust and exhaust emissions from construction equipment. The City's Grading, Erosion, and Sediment Control Ordinance (EMC Chapter 23.24) provides specific measures to be undertaken to reduce the potential for wind or water erosion from a site during grading activities. Mandatory compliance with EMC Chapter 23.24, and the proposed limited scope and duration of construction, would ensure that implementation of the proposed project does not substantially deteriorate ambient air quality or expose sensitive receptors to substantial pollutant concentrations.

Potential air quality impacts associated with the long-term operation of the proposed project would primarily result from automobile emissions and fugitive dust associated with vehicle travel. According to the project-specific traffic impact analysis, project implementation would result in approximately 200 average daily trips (ADT) from the site¹. The proposed project site is currently unused and has an effective starting ADT of zero. According to the air quality technical report (Appendix N) and Table 4-8, *Predicted Vehicle Trip Emissions*, the addition of approximately 200 ADT to the project area would not exceed any of the thresholds established by the SDAPCD for CO, NOx, SOx, PM10, or ROG emissions.

Other potential air quality impacts associated with long-term operation of the proposed project include combustion emissions associated with natural gas use and emissions related to electricity generation necessary to service the project. These impacts also would be less than significant as such emissions would not substantially affect ambient air quality in the area. Accordingly, long-term operation of the proposed project would not substantially deteriorate ambient air quality, nor would it expose sensitive receptors to substantial pollutant concentrations.

¹ It should be noted that the project's traffic impact analysis, which forms the basis for the air quality impact analysis, assumed the construction of 20 dwelling units. Because only 19 dwelling units are proposed, the analysis contained herein represents a "worst-case" analysis of potential impacts to air quality.

Table 4-8 PREDICTED VEHICLE TRIP EMISSIONS

Development Phase	ADT	Aggregate Trip Emissions in Pounds / Day				
		CO	NO _x	SO _x	PM ₁₀	ROG
EMFAC Year 2008 Emission Rates (in grams/mile @ 45 MPH)						
Light Duty Autos (LDA):		3.031	0.404	0.003	0.009	0.090
Light Duty Trucks (LDT):		3.978	0.625	0.003	0.014	0.113
Medium Duty Trucks (MDT):		3.384	1.086	0.005	0.017	0.124
Heavy Duty Trucks (HDT):		4.784	9.678	0.016	0.161	0.447
Buses (UBUS):		11.315	12.657	0.016	0.111	1.000
Motorcycles (MCY):		38.719	1.646	0.002	0.033	3.097
Proposed Project Action @ 200 Net ADT						
Light Duty Autos (LDA):	138	18.4	2.5	0.0	0.1	0.5
Light Duty Trucks (LDT):	39	6.8	1.1	0.0	0.0	0.2
Medium Duty Trucks (MDT):	13	1.9	0.6	0.0	0.0	0.1
Heavy Duty Trucks (HDT):	9	2.0	4.0	0.0	0.1	0.2
Buses (UBUS):	0	0.0	0.0	0.0	0.0	0.0
Motorcycles (MCY):	1	1.7	0.1	0.0	0.0	0.1
Total (Σ) =	200	30.8	8.2	0.0	0.2	1.1
Significance Threshold (SDAPCD):		550.0	250.0	250.0	100.0	55.0
Assumes a 20-mile trip distance per vehicle. SDAPCD air basin. Wintertime conditions (50° F)						

B. SIGNIFICANCE OF IMPACTS (ISSUE 1)

Compliance with EMC Chapter 23.24 would ensure that significant air quality impacts do not occur during construction activities. In addition, as demonstrated in Table 4-8 and the above analysis, long-term operation of the proposed project would not result in a violation of the SDAPCD thresholds for CO, NO_x, SO_x, PM₁₀, or ROG. Therefore, implementation of the proposed project would not create air emissions that would substantially deteriorate ambient air quality, including the exposure of sensitive receptors to substantial pollutant concentrations, and the Lead Agency therefore finds that a significant impact would not occur.

C. MITIGATION MEASURES, MONITORING, AND REPORTING PROGRAM (ISSUE 1)

Impacts would not be significant; therefore, mitigation is not required.

Issue 2: *Would project implementation result in or create objectionable odors to sensitive receptors?*

A. DISCUSSION OF PROJECT IMPACTS (ISSUE 2)

The project proposes to construct a total of 19 residential homes on the proposed project site. Sensitive receptors within the project area include a proposed senior housing facility to the south and east (currently under construction), and an existing residential neighborhood located west of the site.

Potential sources of odors associated with the construction and long-term operation of the proposed single-family residential homes would be limited to household cleaners, paints, and other common household chemicals. Construction activities could generate trace amounts (less than 1µg/m³) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e. bacteria that are present in dust). Additionally, on-site uses could generate substances such as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles.

According to the air quality technical report (Appendix N), odor generation impacts would not be significant because the nearest sensitive receptor is over 250 feet away from the project, any odor generation would be intermittent, and construction-related odor would terminate upon completion of the construction phase of the project. Odors produced by the residents of the project are also expected not to be significant due to the small number of dwelling units (19) proposed by the project.

B. SIGNIFICANCE OF IMPACTS (ISSUE 2)

Construction activities and long-term operation of the proposed project would not result in the creation of objectionable odors that could affect sensitive receptors, and the Lead Agency finds that a significant impact would not occur.

C. MITIGATION MEASURES, MONITORING, AND REPORTING PROGRAM (ISSUE 2)

Impacts would not be significant; therefore, mitigation is not required.

Issue 3: Would implementation of the proposed project involve grading that results in the creation of substantial amounts of particulate matter 10 (Dust)?

A. DISCUSSION OF PROJECT IMPACTS (ISSUE 3)

Proposed construction activities would include the grading of approximately 9.86 acres of the proposed project site (19,000 cubic yards). Grading operations would result in the emission of dust and emissions from construction equipment. The City's Grading Ordinance (EMC Chapter 23.24) requires erosion and sediment control measures, including the application of surface watering during project grading activities in order to minimize the amount of dust generated. Compliance with the City's Grading Ordinance, as would be assured through standard conditions of approval imposed on the project grading plans by the Department of Planning and Building, would reduce air quality emissions associated with project grading activities to below a level of significance.

B. SIGNIFICANCE OF IMPACTS (ISSUE 3)

The Lead Agency finds that with compliance with the City's Grading Ordinance (EMC 23.24), project grading would not result in substantial amounts of PM10 generation and a significant impact would not occur.

C. MITIGATION MEASURES, MONITORING, AND REPORTING PROGRAM (ISSUE 3)

Impacts would not be significant; therefore, mitigation is not required.

Issue 4: Would the proposed project have a substantial negative effect on the ability of the Regional Air Quality Strategy (RAQS) to meet the federal and state clean air standards, or conflict with the implementation of other regional air quality plans?

A. DISCUSSION OF PROJECT IMPACTS (ISSUE 4)

The San Diego Regional Air Quality Strategy (RAQS) establishes what could be referred to as an "emissions budget" for the San Diego Air Basin. This budget takes into account existing conditions, planned growth based on General Plans for cities within the San Diego Association of Governments (SANDAG) region, and air quality control measures implemented by the San Diego Air Pollution Control District (SDAPCD). The "emissions budget" accounts for emissions associated with the proposed project as well as previously approved projects consistent with current General Plan policies.

To determine whether the proposed project is consistent with the RAQS requires a comparison of net emissions from the proposed development to the emissions associated with previously approved and accounted for plans (commonly known as the *Consistency Criterion* of the RAQS). Due to the fact that the proposed project is consistent with the SANDAG projections for growth, based on project consistency with the City's existing General Plan designations, the project, by default, satisfies the *Consistency Criterion* of the RAQS. Therefore, implementation of the proposed project would not result in a substantial negative effect on the ability of the Regional Air Quality Strategy (RAQS) to meet the federal and state clean air standards. There are no other regional air quality plans which affect the proposed project site.

B. SIGNIFICANCE OF IMPACTS (ISSUE 4)

The Lead Agency finds that the proposed project would be consistent with the SANDAG projections for growth, and would be consistent with the RAQS; therefore, a significant impact would not occur.

C. MITIGATION MEASURES, MONITORING, AND REPORTING PROGRAM (ISSUE 4)

Impacts would not be significant; therefore, mitigation is not required.