



air pollution control district
SANTA BARBARA COUNTY

Scope and Content of Air Quality Sections in Environmental Documents

Prepared by the
Planning Division

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***Limited updates to: reference the latest District Ozone Plan and CalEEMod version, update the District's Federal and State attainment status, and update the District's recommended construction impact mitigation measures.**

Note: An extensive update to this document is in process.

SANTA BARBARA COUNTY AIR POLLUTION CONTROL DISTRICT

**SCOPE AND CONTENT OF AIR QUALITY SECTIONS
IN ENVIRONMENTAL DOCUMENTS**

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1. INTRODUCTION

The Santa Barbara County Air Pollution Control District (APCD) performs a number of functions which include: preparing and updating the clean air plans; implementing state and federal air pollution control laws; adopting, administering, and enforcing air pollution control rules and regulations; overseeing a network of air quality monitoring stations; demonstrating innovative clean air technology; and, educating the public about their role in reducing air pollution. In addition, the APCD acts as lead agency, responsible agency or a concerned agency with jurisdiction by law over the air resources of the County under the California Environmental Quality Act (CEQA). In this capacity, the APCD reviews environmental documents for the air quality impacts of land use projects.

The APCD Board consists of the five County Supervisors plus one representative from each of the eight incorporated cities. On October 19, 1995 the APCD Board adopted the APCD's *Environmental Review Guidelines* pursuant to CEQA. Criteria for evaluating the significance of adverse air quality and greenhouse gas impacts from projects subject to CEQA were adopted in the APCD *Environmental Review Guidelines* and are described in Section 4 of this document. The document is available for download at www.ourair.org/apcd/land-use/#Guidelines.

The APCD thresholds of significance apply to all sources of air pollutants, including equipment and businesses not regulated by the APCD and motor vehicles. Examples of businesses that the APCD regulates include gasoline stations, auto body shops, dry cleaners, oil and gas facilities, large wineries, and water and wastewater treatment plants. The APCD regulates these and other businesses by issuing permits and adopting rules, as required by state and federal air pollution control laws. These thresholds of significance cannot be used to determine whether a project will need an APCD permit. For information on whether a project will require an APCD permit, please contact APCD's Engineering Division or visit the APCD website at www.ourair.org.

Air quality and greenhouse gas impacts for land use projects should be evaluated using the thresholds of significance adopted or used by the jurisdiction in which the project is located. Santa Barbara County's thresholds of significance may be found on their website at http://sbcountyplanning.org/permitting/ldpp/auth_reg/environmental_review.cfm.

This document provides guidance for assessing and mitigating air quality and greenhouse gas impacts of development projects. It is updated frequently as new information and methodologies become available. **For the most recent version of this document please check the APCD website at www.ourair.org periodically.** For assistance in applying the thresholds in this manual please contact the Community Programs staff at (805) 961-8800.

2. GLOSSARY OF TERMS and ACRONYMS

Air Pollution Control District (APCD) - A local/regional agency with jurisdiction over stationary sources of air pollution. The Santa Barbara County APCD jurisdictional area is the same as the geographical boundaries of Santa Barbara County.

Air Resources Board (ARB or CARB) - The California Air Resources Board, the agency that regulates mobile and consumer products sources of air pollution in the State of California. The ARB is also tasked with implementing climate change legislation in the state.

Airborne Toxics Control Measure (ATCM) - A regulation developed by the ARB to limit emissions of toxic air contaminants such as diesel particulate, perchloroethylene, etc.

Authority to Construct (ATC) Permit - A permit issued by the APCD prior to commencement of project construction.

CAAQS - California Ambient Air Quality Standard(s).

Carbon Monoxide (CO) – An air pollutant formed by combustion processes of carbon-containing fuels (such as gasoline or wood). Emissions of CO lead to human health impacts.

CEQA Guidelines - Title 14 California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act, Sections 15000 et. seq.

CEQA Statute - California Environmental Quality Act, California Public Resources Code, Division 13, Environmental Quality, Sections 21000 et. seq.

Environmental Impact Report (EIR) - A Document prepared pursuant to CEQA for projects with significant impacts.

Greenhouse Gases (GHGs) – Pollutants that are known to increase the greenhouse effect in the earth's atmosphere, thereby adding to global climate change impacts. A number of pollutants have been identified as GHGs, including carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The State of California defines GHGs in the Health & Safety Code, §38505(g).

Health Risk Assessment (HRA) – An assessment of the acute (immediate) and chronic (cumulative) effects that a project will have on human health.

Initial Study (IS) - Initial evaluation of a project, prepared pursuant to CEQA, to determine whether significant environmental impacts exist. Depending on the outcome of the IS, the lead agency may proceed with a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report.

Lead Agency – The agency that has discretionary authority over a permit action or decision that is subject to CEQA.

NAAQS - National Ambient Air Quality Standard(s).

Negative Declaration (ND) or Mitigated Negative Declaration (MND) – A declaration, prepared in compliance with CEQA, that states that a project will not have a significant impact on the environment (ND) or that a project will not have significant impacts if documented mitigation measures are adopted and enforced (MND).

Notice of Preparation (NOP) of an EIR – An official public notice, issued by the CEQA lead agency, that an Environmental Impact Report will be prepared pursuant to CEQA.

Oxides of Nitrogen (NO_x) – An air pollutant (includes nitrogen oxide, or NO, and nitrogen dioxide, or NO₂). NO_x is typically a product of combustion. Emissions of NO_x lead to human health impacts and also to the formation of ozone.

Ozone (O₃) – A pollutant of regional concern, formed by in the lower atmosphere by a combination of ozone precursors (ROC, NO_x) in the presence of heat and sunlight.

Ozone Plan - Santa Barbara County APCD's plans to meet and/or maintain state and federal air quality standards, as applicable (note that this document was previously known as the Clean Air Plan).

Particulate Matter (PM_{2.5}, PM₁₀, diesel PM) – Fine particulate matter that remains suspended in the atmosphere and can be inhaled into human lungs. PM₁₀ is particulate matter that measures 10 micrometers or less in diameter (similar for PM_{2.5}). Diesel PM is particulate matter that is emitted from diesel-fueled combustion devices.

Permit to Operate (PTO) - A permit issued by the APCD prior to operation of a project.

Reactive Organic Compounds (ROC) – Pollutants that react in the atmosphere to form ozone. Refer to APCD Rule 201 for a regulatory definition of this term.

Stationary Source – Any building, structure, facility, or installation which emits or may emit an air pollutant directly or as fugitive emissions.

Toxic Air Contaminant (TAC) – An air pollutant that is considered to have toxic attributes, be them acute (immediate), chronic (cumulative), or both. Refer to California Health & Safety Code Section 39655 for a regulatory definition of this term.

3. CONTENTS OF EIRS

In general, as required by the California Environmental Quality Act (CEQA), the air quality analysis in environmental impact reports (EIRs) should include the following elements:

- **existing environmental setting** of the area affected by the project, in terms of climate and current air quality; see section 4 of this document;
- a discussion of all direct and indirect, long-term and short-term, **air quality impacts of the proposed project and the classification of the significance of long-term impacts using established criteria**; see section 5 of this document;
- significant **cumulative air quality impacts** of the project including contribution of greenhouse gases to global climate change; see section 5.4;
- **consistency** and conformity of the project with local and regional plans, including the most recent Ozone Plan and other plans; see section 5.4.2;
- **mitigation measures** to avoid or reduce potentially significant air quality impacts, including effectiveness of mitigation measures and discussion of **residual impacts**; see section 6 of this document;
- evaluation of all feasible **alternatives** to the project which would reduce air quality impacts; including the air quality impacts of the "No Project" alternative and the environmentally superior alternative;
- evaluation of the **growth inducing effects** of the project on air quality;
- listing all required air quality mitigation measures in the **Mitigation Monitoring and/or Reporting Plan** (MMRP). This should include details on the implementation of each identified mitigation measure to ensure that they are carried out as specified.
- appendices containing all **calculations and assumptions** used in assessing air quality impacts.

3.1 CONTENTS OF NEGATIVE DECLARATIONS

The air quality impact analysis in an Initial Study/Negative Declaration (or Mitigated Negative Declaration) should include a brief description of the air quality setting, project-specific and cumulative impacts and applicable significance thresholds, consistency with the most recent clean air plan, and any applicable mitigation measures. All calculations and assumptions used in assessing air quality impacts should be included. All air quality mitigation measures should be included as project conditions of approval in the lead agency discretionary permit.

4. ENVIRONMENTAL SETTING

It is necessary to know the environmental setting of a proposed project as a baseline against which to measure the project's impact. The environmental setting should be described both from a local and a regional perspective. CEQA Guidelines Section 15125 (a) states, *"The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives."* The following aspects of the environmental setting may be included in the environmental document:

- the climatological, meteorological and topographical features that may influence the project's effects on local and regional air quality;
- the applicable federal, state and APCD rules and regulations, including emission standards and ambient air quality standards;
- current air pollution problems within the county, and the effects of pollutants such as ozone precursors (NO_x and ROC), PM₁₀, PM_{2.5} and PM₁₀ precursors such as NO_x and SO_x. Please check the APCD website for the most current information.

Federal Designations:

Santa Barbara County is designated attainment/unclassifiable for the federal 8-hour ozone standard of 0.070 ppm, which was promulgated by the U.S. EPA in December 2015. The federal attainment designation for Santa Barbara County was finalized in April 2018. (The 1-hour federal ozone standard was revoked for Santa Barbara County). The County is unclassifiable for the federal PM₁₀ standard and attainment/unclassifiable for the federal PM_{2.5} standard. For current information on attainment designations, see www.ourair.org/air-quality-standards.

State Designations:

The County is currently designated nonattainment for the state ozone standard. To be designated attainment, data must demonstrate that the ozone standard was not violated for three consecutive years. The County violates the state standard for PM₁₀ and is designated nonattainment for that standard; it is currently designated unclassified for the state PM_{2.5} standard.

The major onshore sources of ozone precursor emissions in Santa Barbara County are motor vehicles, the petroleum industry and solvent usage (paints, consumer products and certain industrial processes). Sources of PM₁₀ include mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust (PM_{2.5}). Additional information on ozone and other pollutants of concern is provided in the latest Ozone Plan.

The environmental setting section should include a description of surrounding land uses and whether the project and the surrounding uses are compatible or have the potential to cause localized air quality and health risk impacts.

It may be appropriate to incorporate by reference relevant portions of previously certified environmental documents or the most recent air quality plan in describing the **local or regional** environmental setting. If this is done, a summary or description of the incorporated material and its relationship to the document should be included. The 2001 Clean Air Plan, which was prepared in response to the requirements of the California Clean Air Act, as well as the Federal Clean Air Act, has been adopted as part of the State Implementation Plan. The 2019 Ozone Plan is the current APCD Board-adopted Ozone Plan for the County, and addresses local plans to attain the California 8-hour ozone standard. It includes a historical summary of air quality and is available on the APCD website, www.ourair.org.

5. AIR QUALITY AND GREENHOUSE GAS IMPACTS OF PROJECT

Thresholds of significance are intended to supplement provisions in the State CEQA Guidelines, including Sections 15064, 15065, and 15382, for determining significant effects. Thresholds of significance provide general guidance for determining significant impacts, but are not ironclad definitions of significant impacts. Each project must be judged individually for its potential for significant impacts based on specific circumstances and evidence.

The APCD's air quality significance criteria are applied during the CEQA review of projects for which the APCD is lead agency. Air quality impacts for land use projects should be evaluated using the thresholds of significance adopted or used by the jurisdiction in which the project is located. In the absence of locally-adopted thresholds, the District's thresholds are recommended for CEQA review of all other projects in the county for which the APCD is a responsible agency or a concerned agency.

Santa Barbara County's thresholds of significance, which apply to projects in the unincorporated areas of Santa Barbara County, may be found on their website at http://sbcountyplanning.org/permitting/ldpp/auth_reg/environmental_review.cfm).

The APCD Board has adopted the following thresholds of significance:

A. Air Quality

A proposed project will not have a significant impact on air quality, either individually or cumulatively, if operation of the project will:

- emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule¹, for any pollutant (*i.e.*, 240 pounds/day for ROC or NO_x; and 80 lbs/day for PM₁₀. There is no daily operational threshold for CO ; it is an attainment pollutant²); and
- emit less than 25 pounds per day of NO_x or ROC from motor vehicle trips only; and
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and

¹ The APCD New Source Review Rule as it existed at the time the APCD Environmental Review Guidelines were adopted (in October, 1995).

² Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. Therefore, CO "Hotspot" analyses are not required anymore.

- not exceed the APCD health risk public notification thresholds adopted by the APCD Board (*10 excess cancer cases in a million for cancer risk and a Hazard Index of more than one (1.0) for non-cancer risk*); and
- be consistent with the latest adopted federal and state air quality plans for Santa Barbara County.

B. Climate Change and Greenhouse Gases³

A proposed **stationary source** project will not have a significant GHG impact, if operation of the project will:

- Emit less than the screening significance level of 10,000 metric tons per year (MT/yr) CO₂e, or
- Show compliance with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions (sources subject to the AB 32 Cap-and-Trade requirements pursuant to Title 17, Article 5 (California Cap on Greenhouse Gas Emissions and Market-based Compliance Mechanisms) would meet the criteria), or
- Show consistency with the AB 32 Scoping Plan GHG emission reduction goals by reducing project emissions 15.3% below Business As Usual (BAU).

This stationary source GHG threshold is defined in terms of carbon dioxide equivalent (CO₂e), a metric that accounts for the emissions from various GHGs based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant adverse environmental impact.

On November 30, 2015, the California Supreme Court issued its opinion in *Center for Biological Diversity v. California Department of Fish and Wildlife, Real Party in Interest Newhall Land and Farming*. While the Supreme Court upheld the BAU approach as a valid CEQA threshold, the Court found that application of this threshold in that case was not adequately supported by substantial evidence in the record.

³ *The following thresholds are applicable to stationary source projects and were not designed to be applicable to land use development projects/plans (e.g. residential and commercial development). Also, please note that the APCD is rarely the CEQA lead agency on a stationary source project, since such projects typically require a land use permit from the County or city planning department. For example, the County of Santa Barbara is the lead agency on oil & gas projects that require a Production Plan or Land Use Permit and the County has its own adopted GHG threshold that is applied to such projects.*

In light of *Newhall*, the District advises any agency considering use of the District's BAU CEQA threshold to consult with their attorney to determine if application of this threshold is appropriate in that agency's particular case.

Cumulative impacts and consistency with the policies and measures in the project jurisdiction's general plan, and the current air quality plans, should be discussed for all projects (e.g., whether the project exceeds the growth assumptions in the air quality plan). The District does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, the APCD uses 25 tons per year for ROC or NO_x as a guideline for determining the significance of construction impacts.

5.1 IMPACT CLASSIFICATION

Classification of all air quality impacts using the most recent version of the APCD's *Environmental Review Guidelines* or the adopted environmental review standards for the applicable CEQA lead agency should be included. In order to determine if a project exceeds adopted CEQA thresholds, the expected emissions of these pollutants from the project must be calculated.

CEQA requires that all EIRs contain a Summary Impact Table to assist decision makers. The APCD recommends that the tables be organized as follows:

- a. Class I Impacts -Significant unavoidable adverse impacts for which the decision maker must adopt a Statement of Overriding Consideration.
- b. Class II Impacts -Significant environmental impacts that can be feasibly mitigated or avoided for which the decision maker must adopt findings and recommended mitigation measures.
- c. Class III Impacts - Adverse impacts found not to be significant for which the decision maker does not have to adopt findings under CEQA.
- d. Class IV Impacts - Beneficial impacts.

5.2 SHORT-TERM AND CONSTRUCTION EMISSIONS

Although quantitative thresholds of significance are not currently in place for short-term emissions, CEQA requires that short-term impacts, such as exhaust emissions from construction equipment and fugitive dust generation during grading, be discussed in the environmental document. In the interest of public disclosure, the APCD recommends that construction-related NO_x, ROC, PM₁₀ and PM_{2.5} emissions, from diesel and gasoline powered equipment, paving, and other activities, be quantified. The CalEEMod computer program, available at www.caleemod.com, may be used for estimating unmitigated and mitigated short-term impacts. Default values provided by the program may be used where detailed project information is not available. Appropriate mitigation measures (in addition to the CalEEMod measures) to reduce or avoid emissions to the maximum extent feasible must be applied for projects subject to the County's Local Coastal Plan. Section 5 provides some example measures.

Under APCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct permit have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated.

Standard dust control measures (see Section 6.1) must be implemented for any discretionary project involving earth-moving activities. Some projects have the potential for construction-related dust to cause a nuisance. Since Santa Barbara County violates the state standard for PM₁₀, dust mitigation measures are required for all discretionary construction activities regardless of the significance of the fugitive dust impacts based on the policies in the 1979 Air Quality Attainment Plan.

5.3 LONG-TERM/OPERATIONAL EMISSIONS

Long-term project emissions primarily stem from motor vehicles associated with the project and from stationary sources that may require permits from the APCD. Examples of stationary emission sources include gas stations, auto body shops, diesel generators, boilers and large water heaters, dry cleaners, oil and gas production and processing facilities, and water treatment facilities. Other sources such as residential heating and cooling equipment, wood burning stoves and fireplaces, or other individual appliances do not require permits from the APCD and are known as "area sources." Emissions from "area sources" may be significant for some housing developments or for commercial projects. The CalEEMod computer program may be used for estimating unmitigated and mitigated "area source" impacts (see Section 5.3.1). Wine fermentation and storage emissions should be calculated separately (see Section 5.3.3). These emissions should be included in the operational phase emission evaluation. Note that an APCD permit or a written permit exemption is required for ALL wineries, breweries, distilleries and similar facilities.

The APCD should be contacted for assistance with estimating direct emissions from stationary sources associated with the land use development, such as any diesel-fueled internal combustion engines (e.g., emergency standby engines, prime power diesel generators and compressors) or if the engine is registered with the California Air Resources Board under their portable engine registration permit (PERP) program. Stationary source and area source emissions must be added to transportation source emissions prior to applying the project-specific thresholds of significance.

5.3.1 Estimating Air Pollutant Emissions from Land Use Projects

Emission Modeling Software

To calculate emissions associated with land use projects, APCD recommends the use of the CalEEMod computer program for project-level review. The latest version of the model (Version 2020.4.0 or later) should be used for CEQA analysis. CalEEMod is available for download at www.caleemod.com. The CalEEMod User's Guide, and several useful documents including User Tips, a Technical Paper, and training resources, are also available online at the CalEEMod website.

CalEEMod is a statewide land use emissions computer model that contains up-to-date accurate information including current emission factors and local default values for Santa Barbara County. The model includes mitigation measure options (developed and adopted by the California Air Pollution Control Officers Association (CAPCOA)) that reduce emissions of both criteria pollutants and greenhouse gases, and calculates the emissions benefits achieved from such measures.

Some useful features of the CalEEMod program include:

- Calculation of indirect GHG emissions from processes both “upstream” and “downstream” of the project under evaluation, such as GHG emissions from energy production, solid waste handling, water conveyance, and wastewater conveyance and treatment;
- Quantification of gain or loss of carbon sequestration in vegetation resulting from changes in land use, as well as quantification of carbon sequestration benefits associated with tree planting;
- Calculation of the emission reduction benefits from implementing GHG mitigation measures identified in the CAPCOA document titled “Quantifying Greenhouse Gas Mitigation Measures”;
- Quantification of two additional common GHG pollutants: methane (CH₄) and nitrous oxide (N₂O), in addition to quantifying CO₂ emissions;

- Incorporation of Pavley standards and Low Carbon Fuel standards into the mobile source emission factors;

Evaluation of Significance Using CalEEMod

To determine whether the project being evaluated is likely to exceed the APCD significance threshold for motor vehicle-related emissions of 25 pounds per day of ROC or NO_x, the CalEEMod program should be run using as much project-specific information as possible. An initial estimate of project-related emissions should be done assuming that no mitigation will be employed. After the project's impacts are estimated, emissions should be re-calculated based on any mitigation measures required by the lead agency. For a description of the land use types included in the program, please consult the CalEEMod User's Manual or the Institute of Transportation Engineers (ITE) *Trip Generation Manual*.

To correctly estimate project-specific vehicle emissions and other emission calculations using the CalEEMod program:

- a) the operational year must be changed to reflect the year the project will be built (the on-road fleet-mix in subsequent years is assumed to have lower tail-pipe emissions and the fleet mix varies with the build out year selected), and
- b) the average daily trip generation rates (ADT), which are determined by land use type and project square footage (for non-residential projects) or land use type and dwelling unit count (for residential projects), must be the same as those used in the project-specific traffic analysis estimates. For residential projects, the total area of the residential lot in acres must be provided.

When calculating emissions from vehicle trips, the Average Daily Trips for a peak day must be used. The trip generation rates estimated by the Institute of Transportation Engineers (ITE) *Trip Generation Manual* include employee trips and delivery trucks, but not trips for special events. A reasonable worst case scenario must include all trips that could reasonably occur on the peak day. Averaging the total weekly trips over seven days, or the total annual trips over 365 days, does not estimate the reasonable worst case daily emissions from traffic for comparison with the daily significance threshold (25 lbs/day for ROC or NO_x).

The use of the CalEEMod model may not be appropriate for estimating emissions from the build-out of a community plan. Generally, this requires input from a travel demand model. However, CalEEMod is an easily available, user-friendly tool that may be used to illustrate the relative difference between build-out scenarios or alternatives for community plans. When using CalEEMod to evaluate a large mixed-use type of project, one must supplement any of the default data, such as number of trips, trip lengths, etc., with project specific data from a traffic study.

The main technical problem with using CalEEMod for land use areas larger than 40 acres is that it counts all the average daily trips associated with housing, employment sites, and commercial areas, whereas a travel demand model generates trips from residences and then distributes

those trips to and from various destinations. Therefore, CalEEMod can result in a significantly larger number of trips than a travel demand model, even if the mixed-use, double-counting, and pass-by trips options are used.

Although using CalEEMod defaults over-estimates daily emissions from this type of project, the results using project-specific traffic study data also show that emissions will be many times above the significance thresholds. Thus, the impact is characterized as significant regardless of which method is used.

The use of the CalEEMod model for an alternatives analysis is also acceptable because the alternatives analysis compares emission estimates for different land use development scenarios, and the bias in the estimates should be consistent throughout each alternative's analysis.

Consistency with the most recent Ozone Plan (growth comparisons with SBCAG's Regional Growth Forecast) must also be included to show whether the changes in land use will interfere with progress towards the attainment and maintenance of State and Federal ambient air quality standards.

A Screening Table is provided as *Attachment A* to this document. The screening table lists only the most common types of land uses and estimates the size of a specific project type that is expected to be less than the threshold of significance for ROC and NO_x emissions from vehicles. If a project type is not included in the screening table, if a project includes multiple land use types, or if a project is larger than those listed in the screening table, a project-specific analysis using the CalEEMod program must be performed.

5.3.2 Drive-through Facilities

Historically, the air quality concern associated with drive-through facilities was the potential occurrence of CO hotspots where a large number of vehicles idle. Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with drive-through project traffic alone are not expected to exceed the CO health-related air quality standards. Therefore, CO "Hotspot" analyses are not required anymore.

Santa Barbara County Land Use and Development Code Section 35.42.130.B and similar ordinances for some cities in Santa Barbara County prohibit approval of new drive-through facilities if the air quality impacts of the project are greater with the drive-through than without. The current methodology available to perform a technical analysis of drive-through emissions is based on an extremely small sample size of observations. The calculation of drive-through emissions is highly sensitive to the assumptions used and in most cases is speculative. In general, emissions of ozone precursors (ROC and NO_x) may be slightly lower for a project with a drive-through facility. Conversely, emissions of greenhouse gas pollutants may be higher for a project with a drive-through facility, based on the assumption that a greater amount of

fuel is being burned while vehicles wait in a queue. However, the emissions scenario changes if vehicle operators turn off their vehicles while waiting in the queue. Unless reliable information is available regarding the number of vehicles, queuing times, engine operation while vehicles are in queue (including number of vehicle starts), and non-drive-through service time, an accurate comparison of drive-through vs. non-drive-through emissions cannot be made. The CalEEMod program does not include default assumptions for this type of data. Therefore, the APCD does not recommend the use of the CalEEMod program to compare the emissions from a drive-through project to emissions from that same project without drive-through service.

5.3.3 Wineries

Air pollutant emissions associated with a proposed winery will involve emissions from motor vehicles as well as ROC emissions (primarily ethanol) and greenhouse gases from winery processes such as fermentation, bulk storage and aging of wine in oak barrels. **All wineries (existing and proposed) must apply for a written permit exemption or an Authority to Construct permit from the APCD.** Details on the requirements for wineries are available at www.ourair.org/wineries.

APCD permits are also required for diesel-fueled engines (e.g., firewater pumps) that are rated at 50 brake-horsepower (BHP) or greater. Permits are required for any individual (or grouping) of boilers or large water heaters with a rated heat input greater than 2.0 million Btu's per hour (MMBtu/hr).

An Excel emission calculation spreadsheet for winery daily and annual emissions is available on the APCD website. The spreadsheet is broken into three parts: winery emissions, boiler emissions and diesel engine emissions. Emissions from emergency/standby generator engines (diesel, gasoline or natural gas powered), if present, should be added to the total project emissions. The *Wine Data Input* sheet has all the inputs required to calculate the emissions from winemaking processes and storage. It has two sections, one for annual emissions and the second for daily emissions. When calculating potential emissions, the reasonable worst-case emissions scenario should address the maximum red wine production and aging capacities, since red wine production has higher emissions (check with the APCD to obtain the most current version of the spreadsheet).

The spreadsheet should be used first as a screening tool by assuming only red wine production and that all wine is aged in oak barrels (with no changes to the default settings). If the project does not pass this screening (i.e., the total emissions exceed the CEQA significance threshold) then additional information should be provided by the applicant for site-specific APCD review. This includes:

- Plant/facility process diagram showing the process equipment layout.
- Equipment design data for each device (size, capacity, ratings).

- Supporting documentation and/or calculations that support the data input values, including the total number of oak barrels.
- If applicable, explain what happens to the red wine that is not aged in oak.

During fermentation red wine emits 6.2 lbs ethanol per 1000 gallons; white wine emits 2.5 lbs ethanol per 1000 gallons (California Air Resources Board, 2005a). During aging in wood cooperage, 3.0% of the ethanol evaporates. There are negligible emissions from aging in stainless steel tanks. The greenhouse gas, CO₂, is emitted during fermentation and the emission factor is 882 lb CO₂/1000 gallons for red wine and 819 lb CO₂/1000 gallons for white wine (Santa Barbara County APCD, 2009). The APCD's website, www.ourair.org/wineries, includes a CO₂ emission calculations document with example calculations.

5.3.4 Odor Issues

Certain projects have the potential to cause significant odor impacts because of the nature of their operation and their location. Examples include fast food restaurants, bakeries, and coffee roasting facilities. Other projects may be new developments (e.g., residential areas or sensitive receptors) that are located downwind of existing sources of odor. It is essential that odor issues be discussed early in the application process so that mitigation measures may be identified. An Odor Abatement Plan (OAP) may be submitted as part of the permit application for such a project. APCD inspectors are required to respond to public nuisance complaints under APCD Rule 303, and may review the OAP for adequacy in mitigating potential nuisance odor impacts from a project. OAP's should include the following elements:

- a) Name and telephone number of contact person(s) at the facility responsible for logging in and responding to odor complaints.
- b) Policy and procedure describing the actions to be taken when an odor complaint is received, including the training provided to the staff on how to respond.
- c) Description of potential odor sources at the facility.
- d) Description of potential methods for reducing odors, including minimizing idling of delivery and service trucks and buses, process changes, facility modifications and/or feasible add-on air pollution control equipment.
- e) Contingency measures to curtail emissions in the event of a public nuisance complaint.

Wood-burning fireplaces are the cause of many public nuisance complaints that the APCD receives during the winter months. We recommend that only gas fireplaces be allowed in new residences. A gas fireplace is defined as a fireplace or any other listed gas appliance as defined in the Uniform Mechanical Code designed to burn natural gas in a manner that simulates the appearance of a wood burning fireplace and does not burn anything other than natural gas.

5.3.5 Toxic Air Emissions

Toxic air contaminants (TAC's) are air pollutants that may cause acute (immediate) or chronic (cumulative) adverse health effects, such as cancer or reproductive harm. Many companies have reduced their toxic emissions, either voluntarily or as a result of the implementation of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588), air toxics control measures (ATCM's) developed and implemented by the California Air Resources Board, and amendments and emission control rules passed by the APCD. For more information see www.ourair.org/air-toxics.

Some classifications of projects are more likely than others to emit toxic pollutants. Such projects involve commercial or industrial activities such as oil and gas processing, gasoline dispensing, dry cleaning, electronic and parts manufacturing, medical equipment sterilization, freeways, rail yards, etc. The rail corridor, and other nearby sources of air pollution, including gas stations or dry cleaners, may increase the exposure to air pollution and associated cumulative risk and should be considered.

The impacts are often localized near the source of emissions and locating a sensitive use some distance away from the toxic source may be adequate to avoid the impact. If a project may emit toxic air contaminants, or if toxic contaminants may already be present at the project site, the impacts and potential risk should be discussed in the environmental document. If there are sensitive receptors nearby, a screening health risk assessment (HRA) using worst-case scenario assumptions may be warranted. Some projects may require a formal (refined) HRA, and also may require assessment of baseline health risk as compared to the health risk associated with the proposed project. For additional information on HRA requirements refer to APCD's guidance document entitled "SBCAPCD Modeling Guidelines for Health Risk Assessments" (form APCD-15i), available at the APCD website at www.ourair.org/permit-applications. A health risk assessment is not required for short-term or construction projects at this time.

The significance threshold for long-term public health risk is set at **10 excess cancer cases in a million for cancer risk**. For non-cancer risk, the significance level is set at a **Hazard Index of more than one (1.0)**. A Hazard Index of more than one means that predicted levels of a toxic pollutant are greater than the exposure level (the exposure level being a level that is generally considered acceptable). These significance thresholds are also the health risk public notification thresholds adopted by the APCD Board. If a formal health risk assessment shows that a significant impact will occur, the lead agency may impose mitigations to reduce the predicted health risk to a level that is less than significant.

It should be noted that diesel-powered emergency standby generator engines with a rated brake-horsepower rating of 50 or greater are required to obtain APCD permits, and a screening health risk assessment will be required as part of the permit process.

5.3.6 Public Health and High Traffic Roadways

In Santa Barbara County, the proximity of residential projects to the U.S. 101 freeway is of particular concern. CARB recommends against siting residential land uses within 500 feet of the outer edge of a freeway (California Air Resources Board, 2005b). The CARB recommendation does not include mitigation measures to reduce these health risks, and the proximity studies referenced in the handbook are not based on exposure to specific pollutants or specific concentrations. Therefore, the recommendation is solely to provide for a 500 foot buffer. The APCD strongly recommends policies which require re-designing a residential project so that sensitive receptors are moved 500 feet away from the freeway to reduce potential health impacts.

This recommendation is based on a number of proximity studies that were conducted in areas throughout the state. The studies link traffic-related air pollutant emissions to a number of health effects in children, such as reduced lung function, increased asthma and bronchitis, and increased medical visits. These epidemiological studies differ from site-specific health risk assessments because they do not attempt to quantify the traffic-related air pollutant emissions and calculate exposure values to determine cancer risk. Also, the studies do not discriminate between exposure to particulate matter and gaseous air pollutants. They do, however, provide a strong correlation between exposure to traffic-related air pollution and human airway (bronchial and lung) health in sensitive population groups such as children. Other non-sensitive land uses such as commercial uses may be sited in this area. Additional information is available on the APCD website, see www.ourair.org/apcd/land-use/#AirQualityandLandUse.

5.3.7 Asbestos

If a residential building with more than four units or a commercial building is to be demolished or renovated, or the structure is considered a “regulated structure” (e.g., bridges, caissons, etc.), the project proponent must complete APCD Form ENF-28: *Notification for Renovation and Demolition* or APCD Form ENF-28e: *EXEMPTION from Notification for Renovation and Demolition* (available on the APCD website, www.ourair.org/compliance-forms) and the APCD must be notified even if the building does not contain any asbestos. However, if the project is only a renovation, no notification is required unless the renovation involves disturbing a threshold amount of regulated asbestos materials. The project proponent should consult the APCD website regarding asbestos requirements as definitions and requirements often change. For more information, see www.ourair.org/asbestos.

5.4 CUMULATIVE IMPACTS

Cumulative air quality impacts are the effect of long-term emissions of the proposed project, plus any existing emissions at the same location, plus reasonably foreseeable similar projects on the projected regional air quality or localized air pollution problems in the County.

As discussed in the APCD *Environmental Review Guidelines*, the cumulative contribution of project emissions to regional levels should be compared with existing programs and plans, including the most recent Ozone Plan. Due to the county's nonattainment status for ozone and the regional nature of ozone as a pollutant, if a project's air pollutant emissions of either of the ozone precursors (NO_x or ROC) exceed the long-term thresholds, then the project's cumulative impacts will be considered significant. For projects that do not have significant ozone precursor emissions or localized pollutant impacts, if emissions have been taken into account in the most recent Ozone Plan growth projections, regional cumulative impacts may be considered to be insignificant. When a project's emissions exceed the thresholds and are clearly not accounted for in the most recent Ozone Plan growth projections, then the project is considered to have significant cumulative impacts that must be mitigated to a level of insignificance.

5.4.1 Global Climate Change/Greenhouse Gas Impacts

Greenhouse gas (GHG) emissions and global climate change impacts should be addressed in the CEQA document. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

The California Office of Planning & Research (OPR) developed amendments to the CEQA Guidelines, which were adopted by the California Natural Resources Agency on December 30, 2009 and became effective March 18, 2010. These amendments establish a framework for addressing global climate change impacts in the CEQA process, and include revisions to the Environmental Checklist Form (Appendix G) as well as to the Energy Conservation appendix (Appendix F). A new section (§15064.4) has been added that provides an approach to assessing impacts from GHGs. For additional information on the SB 97 CEQA Guidelines amendments, visit the Resources Agency's website at <http://files.resources.ca.gov/ceqa/guidelines/>.

CEQA documents should include a quantification of GHG emissions from all project sources, direct and indirect, as applicable. In addition, we recommend that climate change impacts be mitigated to the extent reasonably possible, whether or not they are determined to be significant. The discussion of climate change impacts can be included under cumulative air quality impacts or in its own section.

Estimating GHG Emissions for Land Use Projects

GHG emissions from mobile sources (autos and trucks), area sources (water heating and space heating equipment) and construction equipment can be estimated using the CalEEMod program (see section 5.3.1 of this document).

Indirect emissions from electricity usage and other activities (such as solid waste disposal, water conveyance, and wastewater conveyance and treatment) can also be estimated using the

CalEEMod program. It is recommended that CalEEMod be used to estimate indirect emissions, as it is the most complete and up-to-date tool for these purposes.

If there are specific reasons that the CalEEMod program cannot be used to estimate project emissions, indirect GHG emissions from electricity usage can be estimated utilizing the following procedure and assumptions:

1. *Determine electricity usage rates for the proposed project.*
 - a. Residential land uses: If project-specific electricity usage estimates are not available, electricity usage per household can be estimated using data from the 2010 Census (number of households in Santa Barbara County) and Santa Barbara County electricity usage reported by the California Energy Commission (CEC). As of this printing, the most current available electricity usage data is for calendar year 2010. The U.S. Census 2015 American Community Survey reports that the average number of households in Santa Barbara County for 2015 was 154,135 (U.S. Census Fact Finder, 2017). The CEC reports that residential electricity usage in Santa Barbara County for year 2015 was 778.548330 Million kilowatt-hrs (kWh) (California Energy Commission ECDMS, 2017). Therefore, average electricity usage in Santa Barbara County for calendar year 2015 was 5,051.08 kWh/yr/household. Until more current information is made available, this value may be used to estimate per-household electricity usage for CEQA purposes.
 - b. Commercial land uses: If project-specific electricity usage estimates are not available, a generic electricity usage rate can be used. The California Commercial End-Use Survey, a study commissioned by the California Energy Commission and published in 2006, provides an annual electricity usage rate estimate of 13.63 kilowatt-hours per square foot (kWh/ft²) of commercial space (Itron, Inc., 2006). This figure can be used in lieu of project-specific electricity usage amounts.
 - c. Industrial land uses: If the project is an industrial facility that has industry-specific electricity requirements, electricity usage estimates should be developed for the specific project in consultation with lead agency staff.
2. *Determine the appropriate emission factor to estimate GHG emissions for the location of the subject project.* Santa Barbara County projects are generally served by either Pacific Gas & Electric (PG&E) in North County or Southern California Edison (SCE) in South County. Emission factors for carbon dioxide (CO₂) have been developed for these specific utilities and are available at the California Climate Action Registry's CARROT program website at www.climateregistry.org/tools/carrot/carrot-public-reports.html. For example, the user may enter the specific utility (e.g., Southern California Edison) and reporting year (most current available is 2007), generate a report for that year, and scroll to the bottom of the annual emissions report to where "Reference Documents" are provided. The user may then click on the link to the "SCE PUP for 2007", and at the

bottom of this report under “Emissions Efficiency Metrics”, an emission factor of 630.89 lb CO₂ per megawatt-hour (MWh) is provided. As of this printing, the most current CO₂ emission factors for electricity usage are:

- a. Southern California Edison users: 630.89 lb CO₂/MWh (0.6309 lb/kWh) for reporting year 2007.
 - b. Pacific Gas & Electric users: 641.35 lb CO₂/MWh (0.6414 lb/kWh) for reporting year 2008.
3. *Calculate GHG Emissions from electricity usage* by multiplying the project characteristics by the electricity usage rate and the emission factor. For example:
- a. 100 households x 5,051.08 kWh/household x 0.6309 lb CO₂/kWh = 318,672.64 lb CO₂/yr, which converts to 159 short tons/yr (145 metric tonnes/yr)
 - b. 100,000 square feet (commercial) x 13.63 kWh/sf x 0.6309 lb CO₂/kWh = 859,916.7 lb CO₂/yr, which converts to 430 short tons/yr (390 metric tonnes/yr)

GHG/Climate Change Mitigation Measures

GHG emissions can be reduced in a wide variety of ways. The following list provides a broad range of options that project proponents and lead agencies should consider when developing mitigation measures:

- Energy use (energy efficiency, low carbon fuels, renewable energy)
- Water conservation (improved practices and equipment, landscaping)
- Waste reduction (material re-use/recycling, composting, waste diversion/minimization)
- Architectural features (green building practices, cool roofs)
- Transportation (reduce vehicle miles traveled, compact and transit-oriented development, pedestrian- and bicycle-friendly communities, or pedestrian- and bicycle-friendly features such as sidewalks and bike racks)
- Electric Vehicle Infrastructure (EV charger installation, installation of pre-wiring for future EV chargers), see www.ourair.org/sbc/plug-in-central-coast and www.ourair.org/ev-charging-program for more information.

Most of the mitigation measures that are included in Section 6 of this document (with the exception of PM₁₀/fugitive dust mitigation measures) will result in decreased greenhouse gas emissions and are acceptable mitigation for climate change/GHG impacts. Please refer to the APCD website for additional reference materials related to CEQA and Climate Change.

For specific guidance on the appropriate application of GHG mitigation measures, refer to the CAPCOA document titled *Quantifying Greenhouse Gas Mitigation Measures*. This document includes an extensive sector-by-sector compendium of project-specific mitigation measures,

including quantification methods to calculate GHG reductions and is available online at www.capcoa.org.

5.4.2 Consistency with the Ozone Plan

Consistency with land use and population forecasts in local and regional plans, including the Ozone Plan (previously known as the Clean Air Plan), is required under CEQA for all projects. Proposed projects subject to the most recent Ozone Plan consistency determinations include a wide range of activities such as commercial, industrial, residential, and transportation projects. By definition, consistency with the Ozone Plan for the projects subject to these guidelines means that direct and indirect emissions associated with the project are accounted for in the Ozone Plan's emissions growth assumptions and the project is consistent with measures that are developed and implemented in accordance with the Ozone Plan. The Ozone Plan relies primarily on land use and population projections provided by the Santa Barbara County Association of Governments (SBCAG) and California Department of Finance and on-road vehicle emissions forecasts provided by SBCAG as a basis for vehicle emission forecasting. The most recent Ozone Plan was adopted in December 2019 and is available on the APCD's website at <https://www.ourair.org/planning-clean-air>.

Residential Projects that involve population growth in an individual jurisdiction or subregion of the unincorporated county above the amount forecasted for that jurisdiction or subregion will be considered inconsistent with the Ozone Plan and may have a significant impact on air quality.

The standard **dust mitigation measures** in Section 6.1 of this document are based on policies adopted in the 1979 Air Quality Attainment Plan (AQAP). To be consistent with these policies, all projects involving earthmoving activities must implement the standard dust control measures.

Any **general plan amendment** that would provide for increased population growth above that forecasted in the most recently adopted Ozone Plan is inconsistent with the Ozone Plan and may have a significant impact on air quality.

For **areas regulated by growth management** ordinances, where the allowable growth does not exceed the projections contained in the Ozone Plan, proposed residential projects are considered consistent with the Ozone Plan if they are consistent with the limitations of the ordinance.

For **areas not regulated by residential growth management** ordinances, or where growth regulated by such ordinances allows growth in excess of the Ozone Plan projections, proposed residential projects are considered consistent with the Ozone Plan if the annual incremental increase in dwelling units is below the incremental projections contained in the Ozone Plan.

Commercial and industrial projects (square footage and gross acreage) must also be tracked pursuant to the Congestion Management Plan. Commercial or industrial projects will be judged consistent with the Ozone Plan if they are consistent with APCD rules and regulations. Large industrial stationary source projects may be found inconsistent if their direct emissions are not considered in the Ozone Plan stationary source emission inventory.

Consistency with the *Air Quality Supplement of the County's Land Use Element* must also be analyzed for projects in the unincorporated areas of the County. Projects in incorporated areas must be consistent with the air quality policies in applicable plans. The air quality policies, in general, encourage mixed-use development and alternative transportation modes. Specifically, project alternatives for proposed housing projects should consider land development design policies aimed at reducing air pollutant emissions.

6. MITIGATION MEASURES AND RESIDUAL IMPACTS

The environmental document must describe all feasible mitigation measures that may be used to reduce or avoid potentially significant air quality impacts. Evaluation of **mitigation measures** to reduce or avoid potentially significant air quality impacts should include effectiveness of mitigation measures (quantified, if possible) and discussion of **residual impacts**.

Mitigation measures are required to reduce potentially significant air quality impacts caused by a proposed project. The State CEQA Guidelines state that a project shall not be approved with significant environmental impacts if there are feasible mitigation measures to reduce or eliminate the impact. As required by the CEQA Statute Section 21081.6, lead or responsible agencies must establish a **Mitigation Monitoring or Reporting Plan** to ensure that mitigation measures imposed as conditions of project approval are implemented as specified.

This section lists mitigation measures for typical land use projects. Such measures would normally be **recommended** to reduce adverse air quality impacts and are **required** whenever project air quality impacts exceed the significance thresholds.

The following list of mitigation measures **is not all-inclusive**. It should also be noted that more than one mitigation measure per pollutant might be required to reduce project impacts to below the significance threshold. The APCD recommends that the effectiveness of mitigation measures in reducing air quality impact levels be discussed and quantified whenever possible. The effectiveness depends on proper implementation and may vary by location. The Community Programs Section of the APCD should be contacted for information on the best available mitigation measures for different sources.

6.1 CONSTRUCTION IMPACT MITIGATION: PM₁₀ MITIGATION MEASURES

These measures should be required for all projects involving earthmoving activities, regardless of the project size or duration. Projects are expected to manage fugitive dust emissions such that emissions do not exceed APCD's visible emissions limit (APCD Rule 302), create a public nuisance (APCD Rule 303), and are in compliance with the APCD's requirements and standards for visible dust (APCD Rule 345).

- During construction, use water trucks, sprinkler systems, or dust suppressants in all areas of vehicle movement to prevent dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60 minute period. When using water, this includes wetting down areas as needed but at least once in the late morning and after work is completed for the day. Increased watering frequency should be required when sustained wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Onsite vehicle speeds shall be no greater than 15 miles per hour when traveling on unpaved surfaces.
- Install and operate a track-out prevention device where vehicles enter and exit unpaved roads onto paved streets. The track-out prevention device can include any device or combination of devices that are effective at preventing track out of dirt such as gravel pads, pipe-grid track-out control devices, rumble strips, or wheel-washing systems.
- If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Minimize the amount of disturbed area. After clearing, grading, earthmoving, or excavation is completed, treat the disturbed area by watering, OR using roll-compaction, OR revegetating, OR by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. All roadways, driveways, sidewalks etc. to be paved should be completed as soon as possible.
- Schedule clearing, grading, earthmoving, and excavation activities during periods of low wind speed to the extent feasible. During periods of high winds (>25 mph) clearing, grading, earthmoving, and excavation operations shall be minimized to prevent fugitive dust created by onsite operations from becoming a nuisance or hazard.
- The contractor or builder shall designate a person or persons to monitor and document the dust control program requirements to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

6.2 CONSTRUCTION IMPACT MITIGATION – EQUIPMENT EXHAUST

Particulate emissions from diesel exhaust are classified as carcinogenic by the state of California. The following is a list of regulatory requirements and control strategies that should be implemented to the maximum extent feasible. Measures shall be shown on grading and building plans, and shall be adhered to throughout grading, hauling and construction activities.

The following measures are required by state law:

- All portable diesel-powered construction equipment greater than 50 brake horsepower (bhp) shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.

- Fleet owners of diesel-powered mobile construction equipment greater than 25 hp are subject to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets Regulation (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NOx), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.
- Fleet owners of diesel-fueled heavy-duty trucks and buses are subject to CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NOx and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. For more information, see www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Off-road vehicles subject to the State Off-Road Regulation are limited to idling no more than five minutes. Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes, unless the truck engine meets the optional low-NOx idling emission standard, the truck is labeled with a clean-idle sticker, and it is not operating within 100 feet of a restricted area.

The following measures are recommended:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible. Electric auxiliary power units should be used to the maximum extent feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.

- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.
- Construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions whenever feasible.
- Proposed truck routes should minimize to the extent feasible impacts to residential communities and sensitive receptors.
- Construction staging areas should be located away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows.

6.3 OPERATIONAL IMPACT MITIGATION - OZONE PRECURSOR (NO_x AND ROC) MITIGATION MEASURES

The determination of an effective mitigation measure for operational impacts of ozone precursors depends on the nature of the emission source. If the emissions are from a direct source, the APCD should be contacted for direct (i.e., stationary) source mitigation measures.

The APCD has a special interest in residential and commercial land use projects that use sustainable development and pollution prevention principles. Such projects benefit air quality by reducing the use of the single occupant vehicle and by using energy more efficiently. Sustainable development includes principles that strengthen existing communities by directing development towards infill locations, promote mixed land uses, take advantage of compact and green building designs and preserve open space, agricultural land, natural beauty and environmentally sensitive areas. The principles also provide a variety of housing opportunities and choices; create walkable communities with a variety of transportation choices. Pollution prevention principles include "green" buildings whose location, design, construction and energy systems reduce the use of non-renewable energy resources.

Idling Restrictions: In order to reduce diesel emissions and the associated health risk from heavy duty diesel vehicles, California's more recent anti-idling regulations (with some exemptions) require that drivers of diesel-fueled commercial vehicles weighing more than 10,000 pounds:

- shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location,

- shall not use diesel-fueled auxiliary power units for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle equipped with a sleeper berth, at any location.

Lead agencies may place additional requirements on heavy duty diesel delivery and haul trucks less than 10,000 pounds, and create “no idle” zones at locations where there is a potential for significant health risk. It may not be possible to quantify the emission reductions associated with the creation of a no idling zone. However, this feasible mitigation measure may eliminate idling emissions and may avoid potentially significant health risk impacts.

6.3.1 Transportation Control Measures

On a project-specific level, land use and design measures that promote the use of alternative modes of transportation should be considered. These mitigation measures focus on reducing vehicle miles traveled, vehicle trips and peak hour travel. The implementation of these measures will control emissions of ozone precursors (NO_x and ROC), the primary air pollution concern on a regional scale for most land use projects. This list is not all-inclusive; development of additional measures is encouraged.

Onsite Measures

- Include multiple-use development to reduce the need for vehicle trips.

Example:

Combine residential, employment, and retail uses.

- Include design features to encourage alternate transportation modes.

Examples:

For pedestrians: sidewalks; safe street and parking lot crossings; shade trees; off street breezeways, alleys, and over crossings; placement of parking lots and building entrances to favor pedestrians rather than cars; shower and locker facilities.

For transit riders: all of the above plus safe, sheltered transit stops with convenient access to building entrances.

For bicyclists: theft proof and well-lighted bicycle storage facilities with convenient access to building entrance; on-site bikeways between buildings or uses; shower and locker facilities.

For carpools and vanpools: preferential parking.

- Provide onsite services to reduce the need for offsite travel.

Examples:

For residential developments: include childcare, telecommute center, neighborhood retail stores, postal machines, automatic teller machines.

For commercial/office developments: include childcare, food services, postal machines, banking services.

For commercial/retail developments: include delivery services, sales by phone.

- Provide onsite services to encourage alternative transportation modes.
Examples:
rideshare matching, transit subsidies, vanpool subsidies, shuttle services, parking management, guaranteed ride home, education.
- Schedule operations to reduce trips during highly congested periods.
Examples:
adjust business hours, allow alternative work schedules, schedule deliveries for off-peak hours.

Off-Site Measures

- Transit service enhancements to serve the project.
Examples:
provide express bus service, bike racks on buses, shuttle buses.
- Bikeway improvements related to the project.
Examples:
extend bikeway network to provide better access.
- Pedestrian improvements serving the project.
Examples:
add sidewalks to improve access, pedestrian crossings and overhead or underground walkways.
- Telecommuting services for project-related employees.
Examples:
provide rental computers, telecommuting centers.
- Public education for residents or employees of the project.
Examples:
explain the benefits of alternative transportation through multi-media campaigns, such as pamphlets, public service announcements, newsletters or community bulletin boards.

The above measures may be tailored to the impacts of the proposed project. The following mitigation measure is provided as an example of recommended conditions of approval for a new regional shopping center:

Prior to approval of the Land Use Permits, the lead agency shall review and approve the Transportation Demand Management (TDM) Program. The TDM Program shall be a part of the project lease agreement terms and include:

- a) A program to educate employees and shopper/users about the benefits of alternate transportation modes.*
- b) A Bulletin Board for employee carpool matching.*
- c) Shower and locker facilities for employee bicyclists.*
- d) Preferential parking for employee carpoolers.*
- e) Childcare facilities, if feasible.*
- f) Employee transit and carpool subsidies.*
- g) Telephone and computer shopping options.*

6.3.2 Offsite Mitigation

The APCD can provide guidance on mitigating emissions associated with stationary sources of air pollution or a land use development project. The effectiveness of the measures will vary with project location, project type, and the availability of other programs and services. The APCD is available to assist the County and the cities in tailoring a feasible program to meet the emission reduction requirements for projects whose emissions exceed the threshold of significance. Lead agencies will be responsible for implementation and monitoring of air quality offsite mitigation programs.

6.3.3 Energy Conservation

Energy conservation measures are recommended for all projects to reduce the need for natural gas and electricity and thereby reduce greenhouse gases that contribute to global climate change. Although Santa Barbara County does not have power plants, a portion of our electricity comes from burning fossil fuels, which contributes to regional air pollution. The County of Santa Barbara's **Innovative Building Review Program (IBRP)** is a free service to developers, architects, planners and homeowners on how to design projects to use energy more efficiently.

Information on this program can be found at www.sbcountyplanning.org/projects/ibrp/index.cfm.

The following are examples of innovative measures, some that go beyond Title 24 compliance requirements, that should be incorporated into project building plans:

- Photovoltaic and wind generators
- Passive cooling strategies: passive cooling planned for or designed into structure (e.g. strategically sized overhands or trellis on south side, operable skylights, fan,

thermal chimney, a cupola or roof opening for hot air venting, radiant barrier, or underground cooling tubes)

- Residential lighting: whole-home, low voltage, lighting control system with conditional logic
- Non-residential lighting: for daylight spaces, use of automatic, non-dimmed lighting control, or automatic, continuous dimming of light sources, or integrated dimming daylight control
- Outdoor lighting designed for high efficiency, solar-powered or controlled by motion detectors
- Natural lighting in buildings
- Building siting and orientation to reduce energy use and maximize opportunities for solar systems
- Summer shading and wind protection measures to increase energy efficiency (e.g. moveable exterior awnings or trees)
- Protection of building from heat loss (e.g. planting windbreak, earthen berm, or fin walls to create an air envelope around the building)
- Use of landscaping to shade buildings and parking lots
- Installation of energy efficient appliances and lighting.

6.3.4 *Green Materials and Practices*

Proposed building plans should include green building materials and pollution prevention practices, such as:

- At least 75% of exterior of local masonry; plaster or cementitious siding; recycled content, salvaged or recommended option - certified sustainably harvested wood; recycled content roofing material or combination cement-fiber roofing; 30-year rated life on minimum 50% of roof
- At least 50% interior floor of tile, stone, finished concrete; cork or natural linoleum, carpet and pad (tacked) of recycled content or natural content
- All insulation to be 100% recycled content, wet-blown, and/or cellulose with UL fire retardant
- The use of vegetated roof or light-colored roofing materials
- At least 80% of interior and exterior paints and finishes to be zero VOC, of recycled content, water based urethane or lacquer finishes for woodwork and use of only low toxicity, solvent-free adhesives
- Implement a construction waste management plan to re-use and minimize material waste
- Use of concrete or other non-polluting materials for parking lots instead of asphalt
- Installation of mechanical air conditioners and refrigeration units that use non-ozone depleting chemicals.

7. GENERAL CONFORMITY REGULATIONS

Section 176(c) of the Federal Clean Air Act prohibits Federal entities from taking actions in nonattainment or maintenance areas which do not conform to the State implementation Plan (SIP) for the attainment and maintenance of the national ambient air quality standards (NAAQS). Therefore, the purpose of conformity is to (1) ensure Federal activities do not interfere with the budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS. **Currently, SBCAPCD is in attainment of national ambient air quality standards, therefore general conformity analysis is not required for Federal or Federally-funded projects.**

8. REFERENCES

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Santa Barbara County APCD, 2009, *CO2 Emissions Calculations* document dated 6/24/09, available at www.ourair.org/wineries/.

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ATTACHMENT A: Screening Table

The Lead Agency may consult the Screening Table below for an indication as to whether the threshold for vehicle-related emissions from project operations might be exceeded. The Screening Table lists only the most common types of land uses and estimates the size of a specific project type that is expected to be less than the threshold of significance for ROC and NO_x emissions from vehicles. The values provided in the Screening Table were generated using the CalEEMod model Version 2016.3.1 (described in Section 5.3.1). Assumptions for modeling inputs include: a 2019 build-out year, a project in Climate Zone 8, a default trip length, and a trip type of 100% primary trips. Emissions estimates were generated using the “summer” report. The values should be used only for project screening, and should not be considered absolute thresholds of project significance. Projects exceeding the levels indicated in the Screening Table, or project types not included in the Screening Table, should undergo a more detailed analysis, as described in Section 5.

Other air quality issues, such as high odors, toxics, greenhouse gases, cumulative impacts, and consistency with the Ozone Plan must be considered when evaluating a project's potential for causing adverse air quality impacts. Depending on the nature of the project and local conditions, a project below the values in the screening table below could still cause an adverse air quality impact.

SCREENING TABLE: Projects with Potentially Significant Emissions

Land Use Category	Project Description*	Size of Projects Likely to Generate Approximately 22.5 lb/day** of ROG or NOx
Housing		
Single Family House	Detached Housing, 3 houses per acre, individual lots	290 houses
Apartments	One or two levels, 16 apartments per acre	400 apartments
Condominiums/Town-houses	16 condos per acre	490 condos
Mobile Home Park	7.9 manufactured homes per acre	575 mobile homes
Schools		
Elementary School	K-6 grade	175,000 square feet
High School	Grades 9-12	200,000 square feet
Day Care Center	Pre-school age, classrooms, offices, eating areas, playgrounds	39,000 square feet
Community		
Place of Worship	Church, synagogue	80,000 square feet
Retail		
Quality Restaurant	Full service, one hour or more turnover rate	30,000 square feet
High-turnover Restaurant	Full service, less than one hour turnover rate	18,000 square feet
Hotel	Full service, restaurant, meeting rooms	340 rooms
Motel	Restaurant, parking	500 rooms
Discount Club	Free standing store, parking	50,000 square feet
Electronic Superstore	Electronics, Audio, Video, Software, Computers	60,000 square feet
Home Improvement Superstore	Home improvement merchandise	49,000 square feet
Strip Mall	Small strip shopping center that contains a variety of retail shops	64,000 square feet
Supermarket	Food items, also with banking, bakeries floral and photo centers	16,000 square feet

Land Use Category	Project Description*	Size of Projects Likely to Generate Approximately 22.5 lb/day** of ROG or NO _x
24-hour Convenience Market	Convenience foods, no gasoline	3,300 square feet
Commercial		
Office Park	General office buildings with banks, restaurants and other support services	240,000 square feet
Medical Office Building	Medical, dental office	77,000 square feet
General Office Building	Multiple tenants	180,000 square feet
Bank (with Drive-Through)	Drive-in lanes, may also have walk-in banking services	19,000 square feet
Pharmacy/Drugstore (with Drive-Through)	Medications/drugs, personal care products, general merchandise, Drive-through windows	29,000 square feet

* Assumptions for modeling inputs using the CalEEMod model version 16.3.1 include: a 2019 build-out year, a project in Climate Zone 8, a default trip length, and a trip type of 100% primary trips. Emissions estimates were generated using the “summer” report.

** Approximately ten percent less than the SBCAPCD's significance threshold of 25 lbs/day for ROG or NO_x.