

ATTACHMENT 2:

Bay Area Air Quality Management District (BAAQMD). 2017. *Excerpts from CEQA Guidelines*. May.

California Environmental Quality Act

Air Quality Guidelines



*Note: This May 2017 version of the Guidelines includes revisions made to the Air District's 2010 Guidelines to address the California Supreme Court's 2015 opinion in Cal. Bldg. Indus. Ass'n vs. Bay Area Air Quality Mgmt. Dist., 62 Cal.4th 369. **The May 2017 CEQA Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The Air District is currently working to update any outdated information in the Guidelines.** Please see the CEQA webpage at <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa> for status updates on the Air District's CEQA Guidelines or contact Jaclyn Winkel at jwinkel@baaqmd.gov for further information.*

May 2017



California Environmental Quality Act

Air Quality Guidelines

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ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
AB	Assembly Bill
AB 1807	Tanner Air Toxics Act
AB 2588	Air Toxics Hot Spots Information and Assessment Act of 1987
ABAG	Association of Bay Area Governments
AMS	American Meteorological Society
APS	Alternative Planning Strategy
AQP	Air Quality Plan
ARB	California Air Resources Board
ATCM	air toxics control measures
BAAQMD	Bay Area Quality Management District
BACT	Best Available Control Technology
BMPs	Best Management Practices
CCA	Community Choice Aggregation
CAAQS	California Ambient Air Quality Standards
CALINE4	California Line Source Dispersion Model
CAP	criteria air pollutants
CARE	Community Air Risk Evaluation
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CalRecycle	The California Department of Resources Recycling and Recovery (formally the California Integrated Waste Management Board)
CFC	Chlorofluorocarbon
CH_4	methane
CHAPIS	Community Health Air Pollution Information System
CO	carbon monoxide
CO Protocol	Carbon Monoxide Protocol
CO_2	Carbon dioxide
CO_2e	carbon dioxide equivalent
CRA	California Resources Agency



DOE	Department of Energy
du	dwelling units
EIR	Environmental Impact Report
EMFAC	On-Road Mobile-Source Emission Factors
EPA	U.S. Environmental Protection Agency
FAR	Floor Area Ratio
FCAA	Federal Clean Air Act
FCAAA	Federal Clean Air Act Amendments of 1990
GHG	greenhouse gas(es)
GRP	General Reporting Protocol
GVW	gross vehicle weight
GWP	global warming potential
H ₂ S	hydrogen sulfide
HEPA	High Efficiency Particulate Arresting (filter)
HI	Hazard Index
HRA	health risk assessment
HVAC	Heating, Ventilation, and Air Conditioning System
IPCC	Intergovernmental Panel on Climate Change
ISR	Indirect Source Review
ksf	thousand square feet
kwh	Kilowatt hour
lb/acre-day	pound per disturbed acre per day
lb/day	pounds per day
lb/kwh	pounds per kilowatt hour
LCFS	Low-Carbon Fuel Standard
LVW	loaded vehicle weight
MACT	maximum available control technology
mg	million gallons
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organizations
MT	metric tons
MTC	Metropolitan Transportation Commission
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards



NESHAP	national emissions standards for hazardous air pollutants
NH ₃	mercaptan, ammonia
NOA	Naturally Occurring Asbestos
NOP	Notice of Preparation
NO _x	oxides of nitrogen
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PM	particulate matter
PM ₁₀	respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
PM _{2.5}	fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less
ppm	parts per million
PUC	Public Utilities Commission
RoadMod	Roadway Construction Emissions Model
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
SP	Service Population
SSIM	Sustainable Systems Integration Model
TAC	toxic air contaminant
T-BACT	Toxic Best Available Control Technology
TBPs	Toxic Best Practices
tpy	tons per year
UC	University of California
URBEMIS	Urban Land Use Emissions Model
VMT	vehicle miles traveled
VT	vehicle trips
yd ³	cubic yards
yr	Year



1. INTRODUCTION

1.1. PURPOSE OF GUIDELINES

The purpose of the Bay Area Air Quality Management District (BAAQMD or District) California Environmental Quality Act (CEQA) Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin (SFBAAB). The Guidelines provides BAAQMD-recommended procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. These revised Guidelines supersede the BAAQMD's previous CEQA guidance titled *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans* (BAAQMD 1999).

Land development plans and projects have the potential to generate harmful air pollutants that degrade air quality and increase local exposure. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, greenhouse gas (GHG), toxic air contaminant, and odor emissions generated from plans or projects.

The Guidelines are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion. These Guidelines may inform environmental review for development projects in the Bay Area, but do not commit local governments or the Air District to any specific course of regulatory action. The Guidelines offer step-by-step procedures for a thorough environmental impact analysis of adverse air emissions due to land development in the Bay Area.

1.1.1. BAAQMD's Role in Air Quality

BAAQMD is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the Bay Area. BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties, as shown in Figure 1-1. The Air District's responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

BAAQMD takes on various roles in the CEQA process, depending on the nature of the proposed project, including:

Lead Agency – BAAQMD acts as a Lead Agency when it has the primary authority to implement or approve a project, such as when it adopts air quality plans for the region, issues stationary source permits, or adopts rules and regulations.

Responsible Agency – BAAQMD acts as a Responsible Agency when it has limited discretionary authority over a portion of a project, but does not have the primary discretionary authority of a Lead Agency. As a Responsible Agency, BAAQMD may coordinate the environmental review process with the lead agency regarding BAAQMD's permitting process, provide comments to the Lead Agency regarding potential impacts, and recommend mitigation measures.



Source: ESRI Satellite 2009

Bay Area Air Quality Management District Jurisdictional Boundaries

Figure 1-1



Commenting Agency – BAAQMD may act as a Commenting Agency when it is not a Lead or Responsible Agency (i.e., it does not have discretionary authority over a project), but when it may have concerns about the air quality impacts of a proposed project or plan. As a Commenting Agency, BAAQMD may review environmental documents prepared for development proposals and plans in the region, such as local general plans, and provide comments to the Lead Agency regarding the adequacy of the air quality impact analysis, determination of significance, and mitigation measures proposed.

BAAQMD prepared the CEQA Guidelines to assist lead agencies in air quality analysis, as well as to promote sustainable development in the region. The CEQA Guidelines support lead agencies in analyzing air quality impacts and offers numerous mitigation measures and general plan policies to implement smart growth and transit oriented development, minimize construction emissions, and reduce population exposure to air pollution risks.

1.2. GUIDELINE COMPONENTS

The recommendations in the CEQA Guidelines should be viewed as minimum considerations for analyzing air quality impacts. Lead agencies are encouraged to tailor the air quality impact analysis to meet the needs of the local community and may conduct refined analysis that utilize more sophisticated models, more precise input data, innovative mitigation measures, and/or other features. The Guidelines contain the following sections:

Introduction – Chapter 1 provides a summary of the purpose of the Guide, and an overview of BAAQMD responsibilities.

Thresholds of Significance – Chapter 2 outlines the current thresholds or significance for determining the significance of air quality impacts.

Screening Criteria – Chapter 3 provides easy reference tables to determine if your project may have potentially significant impacts requiring a detailed analysis.

Assessing and Mitigating Impacts – Chapters 4 through 9 describe assessment methods and mitigation measures for operational-related, local community risk and hazards, local carbon monoxide (CO), odors, construction-related, and plan-level impacts.

Appendix A – Provides construction assessment tools.

Appendix B – Provides detailed air quality modeling instructions.

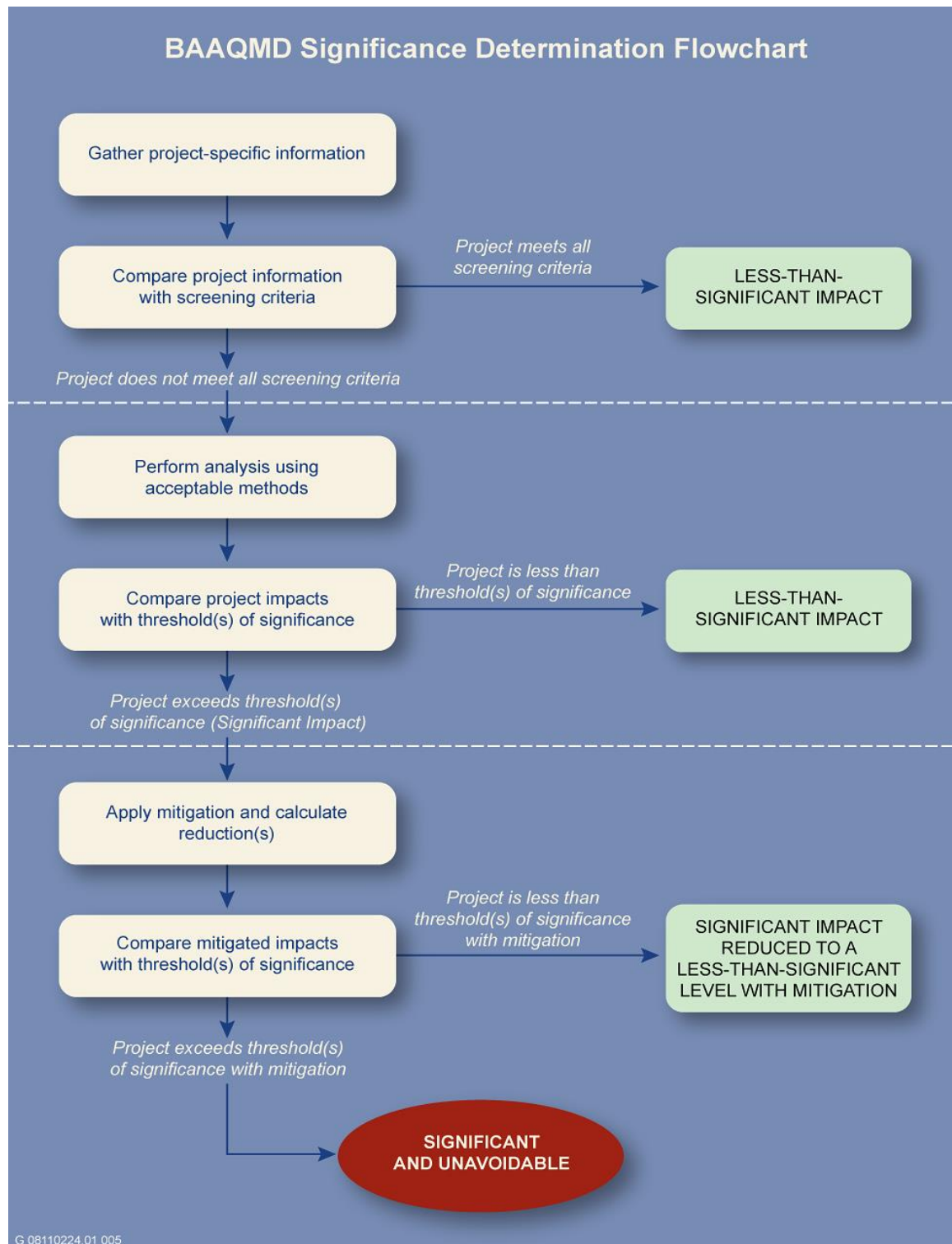
Appendix C – Outlines sample environmental setting information.

Appendix D – Contains justification statements for BAAQMD-adopted thresholds of significance.

Appendix E – Provides a glossary of terms used throughout this guide.

1.2.1. How To Use The Guidelines

Figure 2-1 illustrates general steps for evaluating a project or plan's air quality impacts. The first step is to determine whether the air quality evaluation is for a project or plan. Once identified, the project should be compared with the appropriate construction and operational screening criteria listed in Chapter 2. There are no screening criteria for plans.



General Steps for Determining Significance of Air Quality Impacts

Figure 1-2



If the project meets the screening criteria and is consistent with the methodology used to develop the screening criteria, then its air quality impacts may be considered less than significant. Otherwise, lead agencies should evaluate potential air quality impacts of projects (and plans) as explained in Chapters 4 through 9. These Chapters describe how to analyze air quality impacts from criteria air pollutants, GHGs, local community risk and hazards, and odors associated with construction activity and operations of a project or plan.

If, after proper analysis, the project or plan's air quality impacts are found to be below the significance thresholds, then the air quality impacts may be considered less than significant. If not, the Lead Agency should implement appropriate mitigation measures to reduce associated air quality impacts. Lead agencies are responsible for evaluating and implementing all feasible mitigation measures in their CEQA document.

The mitigated project or plan's impacts are then compared again to the significance thresholds. If a project succeeded in mitigating its adverse air quality impacts below the corresponding thresholds, air quality impacts may be considered less than significant. If a project still exceeds the thresholds, the Air District strongly encourages the lead agency to consider project alternatives that could lessen any identified significant impact, including a no project alternative in accordance with CEQA Guidelines section 15126.6(e).

1.2.2. Early Consultation

The District encourages local jurisdictions and project applicants to address air quality issues as early as possible in the project planning stage. Addressing land use and site design issues while a proposed project is still in the conceptual stage increases opportunities to incorporate project design features to minimize land use compatibility issues and air quality impacts. By the time a project enters the CEQA process, it is usually more costly and time-consuming to redesign the project to incorporate mitigation measures. Early consultation may be achieved by including a formal step in the jurisdiction's development review procedures or simply by discussing air quality concerns at the planning counter when a project proponent makes an initial contact regarding a proposed development. Regardless of the specific procedures a local jurisdiction employs, the objective should be to incorporate features into a project that minimize air quality impacts before significant resources (public and private) have been devoted to the project.

The following air quality considerations warrant particular attention during early consultation between Lead Agencies and project proponents:

1. land use and design measures to encourage alternatives to the automobile, conserve energy and reduce project emissions;
2. land use conflicts and exposure of sensitive receptors to odors, toxics and criteria pollutants; and,
3. applicable District rules, regulations and permit requirements.



PART I: THRESHOLDS OF SIGNIFICANCE & PROJECT SCREENING

2. THRESHOLDS OF SIGNIFICANCE

The SFBAAB is currently designated as a nonattainment area for state and national ozone standards and national particulate matter ambient air quality standards. SFBAAB's nonattainment status is attributed to the region's development history. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible.

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. Climate change impacts may include an increase in extreme heat days, higher concentrations of air pollutants, sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts. No single project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts.



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BAAQMD's approach to developing a *Threshold of Significance* for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. Refer to Table 2-1 for a summary of Air Quality CEQA Thresholds and to Appendix D for *Thresholds of Significance* documentation.



Table 2-1 Air Quality CEQA Thresholds of Significance*			
Pollutant	Construction-Related	Operational-Related	
Project-Level			
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs – Projects other than Stationary Sources	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO ₂ e/yr OR 4.6 MT CO ₂ e/SP/yr (residents+employees)	
GHGs –Stationary Sources	None	10,000 MT/yr	
Risk and Hazards for new sources and receptors (Individual Project)*	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average <u>Zone of Influence:</u> 1,000-foot radius from property line of source or receptor	
Risk and Hazards for new sources and receptors (Cumulative Threshold)*	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM _{2.5} : > 0.8 µg/m ³ annual average (from all local sources) <u>Zone of Influence:</u> 1,000-foot radius from property line of source or receptor	
Accidental Release of Acutely Hazardous Air Pollutants*	None	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant	
Odors*	None	5 confirmed complaints per year averaged over three years	



Table 2-1 Air Quality CEQA Thresholds of Significance*		
Pollutant	Construction-Related	Operational-Related
Plan-Level		
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures, and 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
GHGs	None	Compliance with Qualified GHG Reduction Strategy OR 6.6 MT CO ₂ e/SP/yr (residents + employees)
Risks and Hazards*	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) and 2. Overlay zones of at least 500 feet from all freeways and high volume roadways
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Odors*	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors
Regional Plans (Transportation and Air Quality Plans)		
GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants	None	No net increase in emissions
<p>CEQA = California Environmental Quality Act; CO = carbon monoxide; CO₂e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO_x = oxides of nitrogen; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SO₂ = sulfur dioxide; SP = service population; TACs = toxic air contaminants; TBP = toxic best practices; tons/day = tons per day; tpy = tons per year; yr = year; TBD: to be determined.</p> <p>*The receptor thresholds were the subject of litigation in <i>California Building Industry Association v. Bay Area Air Quality Management District</i> (2015) 62 Cal. 4th 369. The use of the receptor thresholds is discussed in section 2.8 of these Guidelines.</p> <p>** The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.</p>		

2.1. CRITERIA AIR POLLUTANTS AND PRECURSORS – PROJECT LEVEL

Table 2-2 presents the *Thresholds of Significance* for operational-related criteria air pollutant and precursor emissions. These represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If daily average or annual emissions of operational-



related criteria air pollutants or precursors would exceed any applicable *Threshold of Significance* listed in Table 2-2, the proposed project would result in a cumulatively significant impact.

Table 2-2 Thresholds of Significance for Operational-Related Criteria Air Pollutants and Precursors		
Pollutant/Precursor	Maximum Annual Emissions (tpy)	Average Daily Emissions (lb/day)
ROG	10	54
NO _x	10	54
PM ₁₀	15	82
PM _{2.5}	10	54
Notes: tpy = tons per year; lb/day = pounds per day; NO _x = oxides of nitrogen; PM _{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM ₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year. Refer to Appendix D for support documentation.		

2.2. GREENHOUSE GASES – PROJECT LEVEL

The *Thresholds of Significance* for operational-related GHG emissions are:

- For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per year (MT/yr) of CO₂e; or 4.6 MT CO₂e/SP/yr (residents + employees). Land use development projects include residential, commercial, industrial, and public land uses and facilities.
- For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO₂e. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate.

If annual emissions of operational-related GHGs exceed these levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

2.3. LOCAL COMMUNITY RISK AND HAZARD IMPACTS – PROJECT LEVEL

The *Thresholds of Significance* for local community risk and hazard impacts are identified below, which apply to the siting of a new source. Local community risk and hazard impacts are associated with TACs and PM_{2.5} because emissions of these pollutants can have significant health impacts at the local level. If emissions of TACs or fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less (PM_{2.5}) exceed any of the *Thresholds of Significance*





listed below, the proposed project would result in a significant impact.

- Non-compliance with a qualified risk reduction plan; or
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual average $\text{PM}_{2.5}$ would be a cumulatively considerable contribution.

Cumulative Impacts

A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius from the fence line of a source plus the contribution from the project, exceeds the following:

- Non-compliance with a qualified risk reduction plan; or
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- $0.8 \mu\text{g}/\text{m}^3$ annual average $\text{PM}_{2.5}$.

A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius.

2.4. LOCAL CARBON MONOXIDE IMPACTS – PROJECT LEVEL

Table 2-3 presents the *Thresholds of Significance* for local CO emissions, the 1- and 8-hour California Ambient Air Quality Standards (CAAQS) of 20.0 parts per million (ppm) and 9.0 ppm, respectively. By definition, these represent levels that are protective of public health. If a project would cause local emissions of CO to exceed any of the *Thresholds of Significance* listed below, the proposed project would result in a significant impact to air quality.

Table 2-3 Thresholds of Significance for Local Carbon Monoxide Emissions	
CAAQS Averaging Time	Concentration (ppm)
1-Hour	20.0
8-Hour	9.0
Refer to Appendix D for support documentation.	

2.5. ODOR IMPACTS – PROJECT LEVEL

The *Thresholds of Significance* for odor impacts are qualitative in nature. A project that would result in the siting of a new source should consider the screening level distances and the complaint history of the odor sources:

- Projects that would site a new odor source farther than the applicable screening distance shown in Table 3-3 from an existing receptor, would not likely result in a significant odor impact.



- A type of odor source with five (5) or more confirmed complaints in the new source area per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3.

Facilities that are regulated by the CalRecycle agency (e.g. landfill, composting, etc) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP. Refer to *Chapter 7 Assessing and Mitigating Odor Impacts* for further discussion of odor analysis.

2.6. CONSTRUCTION-RELATED IMPACTS – PROJECT LEVEL

2.6.1. Criteria Air Pollutants and Precursors

Table 2-4 presents the *Thresholds of Significance* for construction-related criteria air pollutant and precursor emissions. If daily average emissions of construction-related criteria air pollutants or precursors would exceed any applicable *Threshold of Significance* listed in Table 2-4, the project would result in a significant cumulative impact.



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Table 2-4 Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors	
Pollutant/Precursor	Daily Average Emissions (lb/day)
ROG	54
NO _x	54
PM ₁₀	82*
PM _{2.5}	54*
* Applies to construction exhaust emissions only. Notes: CO = carbon monoxide; lb/day = pounds per day; NO _x = oxides of nitrogen; PM _{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM ₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO ₂ = sulfur dioxide. Refer to Appendix D for support documentation.	

2.6.2. Greenhouse Gases

The District does not have an adopted *Threshold of Significance* for construction-related GHG emissions. However, the Lead Agency should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.



2.6.3. Local Community Risk and Hazards

The *Threshold of Significance* for construction-related local community risk and hazard impacts is the same as that for project operations. Construction-related TAC and PM impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable. The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

2.7. THRESHOLDS OF SIGNIFICANCE FOR PLAN-LEVEL IMPACTS

The *Thresholds of Significance* for plans (e.g., general plans, community plans, specific plans, regional plans, congestion management plans, etc.) within the SFBAAB are summarized in Table 2-5 and discussed separately below.

Table 2-5 Thresholds of Significance for Plans*	
Criteria Air Pollutants and Precursors	Construction: none Operational: Consistency with Current AQP and projected VMT or vehicle trip increase is less than or equal to projected population increase.
GHGs	Construction: none Operational: 6.6 MT CO ₂ e/SP/yr (residents & employees) or a Qualified GHG Reduction Strategy. The efficiency threshold should only be applied to general plans. Other plans, e.g. specific plans, congestion management plans, etc., should use the project-level threshold of 4.6 CO ₂ e/SP/yr.
Local Community Risk and Hazards	Land use diagram identifies special overlay zones around existing and planned sources of TACs and PM _{2.5} , including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.
Odors	Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.
Regional Plans (transportation and air quality plans)	No net increase in emissions of GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants. Threshold only applies to regional transportation and air quality plans.
* The receptor thresholds were the subject of litigation in <i>California Building Industry Association v. Bay Area Air Quality Management District</i> (2015) 62 Cal. 4th 369. The use of the receptor thresholds is discussed in section 2.8 of these Guidelines. Notes: AQP = Air Quality Plan; CO ₂ e = carbon dioxide equivalent; GHGs = greenhouse gases; MT = metric tons; SP = service population; TACs = toxic air contaminants; yr = year; PM _{2.5} = fine particulate matter Refer to Appendix D for support documentation.	

2.7.1. Criteria Air Pollutants and Precursor Emissions

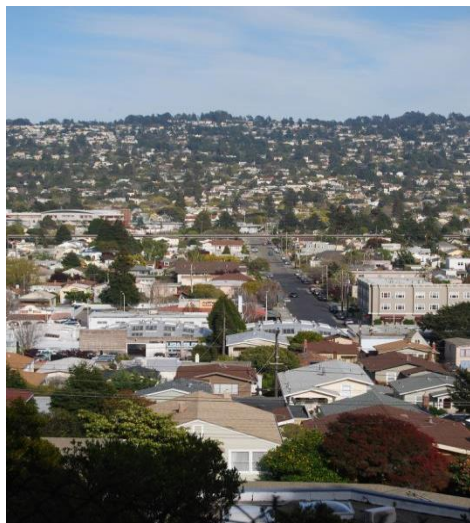
Proposed plans (except regional plans) must show the following over the planning period of the plan to result in a less than significant impact:

- Consistency with current air quality plan control measures.
- A proposed plan's projected VMT or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.



2.7.2. Greenhouse Gases

The *Threshold of Significance* for operational-related GHG impacts of plans employs either a GHG efficiency-based metric (per Service Population [SP]), or a GHG Reduction Strategy option, described in Section 4.3.



The *Thresholds of Significance* options for plan level GHG emissions are:

- A GHG efficiency metric of 6.6 MT per SP per year of carbon dioxide equivalent (CO₂e). If annual maximum emissions of operational-related GHGs exceed this level, the proposed plan would result in a significant impact to global climate change.
- Consistency with an adopted GHG Reduction Strategy. If a proposed plan is consistent with an adopted GHG Reduction Strategy that meets the standards described in Section 4.3, the plan would be considered to have a less than significant impact. This approach is consistent with the plan elements described in the State CEQA Guidelines, Section 15183.5.

2.7.3. Local Community Risk and Hazards

The *Thresholds of Significance* for plans with regard to community risk and hazard impacts are:

1. The land use diagram must identify:
 - a. Special overlay zones around existing and planned sources of TACs and PM (including adopted risk reduction plan areas); and
 - b. Special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways.
2. The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards.

Although the Risk and Hazard Thresholds recommend evaluating the impacts of locating new development in areas subject to high levels of TACs and PM, the California Supreme Court determined in 2015 that, as a general rule, CEQA does not require this analysis. Section 2.8 below discusses the Supreme Court's decision with respect to the use of the Risk and Hazard Thresholds.

2.7.4. Odors

The *Thresholds of Significance* for plans with regard to odor impacts are to identify locations of odor sources in a plan and the plan must also identify goals, policies, and objectives to minimize potentially adverse impacts.

2.7.5. Regional Plans

The *Thresholds of Significance* for regional plans is to achieve a no net increase in emissions of criteria pollutants and precursors, GHG, and toxic air contaminants. This threshold applies only to regional transportation and air quality plans.



2.8 Receptor Thresholds

The Receptor Thresholds in these Guidelines address the analysis of exposing new receptors to existing sources of toxic air pollution and odors. These Thresholds were the subject of litigation brought by the California Building Industry Association. The California Supreme Court's decision in that litigation states that: "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents . . . Despite the statute's evident concern with protecting the environment and human health, its relevant provisions are best read to focus almost entirely on how projects affect the environment." The Supreme Court upheld "evaluating a project's potentially significant exacerbating effects on existing environmental hazards . . . Because this type of inquiry still focuses on the project's impacts on the environment—how a project might worsen existing conditions—directing an agency to evaluate how such worsened conditions could affect a project's future users or residents is entirely consistent with this focus and with CEQA as a whole."

The Supreme Court also determined that CEQA requires an analysis of exposing new receptors to existing environmental hazards "in several specific contexts involving certain airport (§ 21096) and school construction projects (§ 21151.8), and some housing development projects (§§ 21159.21, subds. (f), (h), 21159.22, subds. (a), (b)(3), 21159.23, subd. (a)(2)(A), 21159.24, subd. (a)(1), (3), 21155.1, subd. (a)(4), (6))." These provisions "constitute specific exceptions to CEQA's general rule requiring consideration only of a project's effect on the environment, not the environment's effects on project users."

The Supreme Court also indicated that nothing in CEQA prevents local agencies from considering the impact of locating new development in areas subject to existing environmental hazards. However, the Court of Appeal explained "CEQA cannot be used by a lead agency to require a developer or other agency to obtain an EIR or implement mitigation measures solely because the occupants or users of a new project would be subjected to the levels of emissions specified, an agency may do so voluntarily on its own project and may use the Receptor Thresholds for guidance." The Court of Appeal also explained that, under CEQA, the Receptor Thresholds should not be applied to "routinely assess the effect of existing environmental conditions on future users or occupants of a project." The courts did not address the extent to which agencies could rely on their police power, general plans, or other regulatory authority outside of CEQA to require mitigation to address existing environmental hazards. For more information on planning approaches to addressing the impacts of locating new development in areas subject to existing air pollution, please see "Planning Healthy Places."

<http://www.baaqmd.gov/plans-and-climate/planning-healthy-places>

Under the appropriate circumstances described above, the District recommends the following Receptor Thresholds:



Table 2-6

Receptor Thresholds

Risks and Hazards (Individual Project)	<p>Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM_{2.5} increase: >0.3 µg/m³ annual average</p> <p><u>Zone of Influence:</u> 1,000-foot radius from property line of receptor</p>
Risks and Hazards (Cumulative Threshold)	<p>Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM_{2.5}: > 0.8 µg/m³ annual average (from all local sources)</p> <p><u>Zone of Influence:</u> 1,000-foot radius from property line of receptor</p>
Accidental Release of Acutely Hazardous Air Pollutants	New receptors locating near stored or used acutely hazardous materials considered significant
Odors	5 confirmed complaints per year averaged over three years



3. SCREENING CRITERIA

The screening criteria identified in this section are **not thresholds of significance**. The Air District developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether the proposed project could result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. These screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration. In addition, the screening criteria in this section do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill, and/or proximate to transit service and local services, emissions would be less than the greenfield type project that these screening criteria are based on.

If a project includes emissions from stationary source engines (e.g., back-up generators) and industrial sources subject to Air District Rules and Regulations, the screening criteria should not be used. The project's stationary source emissions should be analyzed separately from the land use-related indirect mobile- and area-source emissions. Stationary-source emissions are not included in the screening estimates given below and, for criteria pollutants, must be added to the indirect mobile- and area-source emissions generated by the land use development and compared to the appropriate Thresholds of Significance. Greenhouse gas emissions from permitted stationary sources should not be combined with operational emissions, but compared to a separate stationary source greenhouse gas threshold.

3.1. OPERATIONAL-RELATED IMPACTS

3.1.1. Criteria Air Pollutants and Precursors

The screening criteria developed for criteria pollutants and precursors were derived using the default assumptions used by the Urban Land Use Emissions Model (URBEMIS). If the project has sources of emissions not evaluated in the URBEMIS program the screening criteria should not be used. If the project meets the screening criteria in Table 3-1, the project would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the *Thresholds of Significance* shown in Table 2-2. Operation of the proposed project would therefore result in a less-than-significant cumulative impact to air quality from criteria air pollutant and precursor emissions.

3.1.2. Greenhouse Gases

The screening criteria developed for greenhouse gases were derived using the default emission assumptions in URBEMIS and using off-model GHG estimates for indirect emissions from electrical generation, solid waste and water conveyance. If the project has other significant sources of GHG emissions not accounted for in the methodology described above, then the screening criteria should not be used. Projects below the applicable screening criteria shown in Table 3-1 would not exceed the 1,100 MT of CO₂e/yr GHG threshold of significance for projects other than permitted stationary sources.

If a project, including stationary sources, is located in a community with an adopted qualified GHG Reduction Strategy, the project may be considered less than significant if it is consistent with the GHG Reduction Strategy. A project must demonstrate its consistency by identifying and implementing all applicable feasible measures and policies from the GHG Reduction Strategy into the project.



Table 3-1
Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
Single-family	325 du (NOX)	56 du	114 du (ROG)
Apartment, low-rise	451 du (ROG)	78 du	240 du (ROG)
Apartment, mid-rise	494 du (ROG)	87 du	240 du (ROG)
Apartment, high-rise	510 du (ROG)	91 du	249 du (ROG)
Condo/townhouse, general	451 du (ROG)	78 du	240 du (ROG)
Condo/townhouse, high-rise	511 du (ROG)	92 du	252 du (ROG)
Mobile home park	450 du (ROG)	82 du	114 du (ROG)
Retirement community	487 du (ROG)	94 du	114 du (ROG)
Congregate care facility	657 du (ROG)	143 du	240 du (ROG)
Day-care center	53 ksf (NOX)	11 ksf	277 ksf (ROG)
Elementary school	271 ksf (NOX)	44 ksf	277 ksf (ROG)
Elementary school	2747 students (ROG)	-	3904 students (ROG)
Junior high school	285 ksf (NOX)	-	277 ksf (ROG)
Junior high school	2460 students (NOX)	46 ksf	3261 students (ROG)
High school	311 ksf (NOX)	49 ksf	277 ksf (ROG)
High school	2390 students (NOX)	-	3012 students (ROG)
Junior college (2 years)	152 ksf (NOX)	28 ksf	277 ksf (ROG)
Junior college (2 years)	2865 students (ROG)	-	3012 students (ROG)
University/college (4 years)	1760 students (NOX)	320 students	3012 students (ROG)
Library	78 ksf (NOX)	15 ksf	277 ksf (ROG)
Place of worship	439 ksf (NOX)	61 ksf	277 ksf (ROG)
City park	2613 acres (ROG)	600 acres	67 acres (PM10)
Racquet club	291 ksf (NOX)	46 ksf	277 ksf (ROG)
Racquetball/health	128 ksf (NOX)	24 ksf	277 ksf (ROG)
Quality restaurant	47 ksf (NOX)	9 ksf	277 ksf (ROG)
High turnover restaurant	33 ksf (NOX)	7 ksf	277 ksf (ROG)
Fast food rest. w/ drive thru	6 ksf (NOX)	1 ksf	277 ksf (ROG)
Fast food rest. w/o drive thru	8 ksf (NOX)	1 ksf	277 ksf (ROG)
Hotel	489 rooms (NOX)	83 rooms	554 rooms (ROG)
Motel	688 rooms (NOX)	106 rooms	554 rooms (ROG)
Free-standing discount store	76 ksf (NOX)	15 ksf	277 ksf (ROG)
Free-standing discount superstore	87 ksf (NOX)	17 ksf	277 ksf (ROG)
Discount club	102 ksf (NOX)	20 ksf	277 ksf (ROG)
Regional shopping center	99 ksf (NOX)	19 ksf	277 ksf (ROG)
Electronic Superstore	95 ksf (NOX)	18 ksf	277 ksf (ROG)
Home improvement superstore	142 ksf (NOX)	26 ksf	277 ksf (ROG)
Strip mall	99 ksf (NOX)	19 ksf	277 ksf (ROG)
Hardware/paint store	83 ksf (NOX)	16 ksf	277 ksf (ROG)
Supermarket	42 ksf (NOX)	8 ksf	277 ksf (ROG)
Convenience market (24 hour)	5 ksf (NOX)	1 ksf	277 ksf (ROG)
Convenience market with gas pumps	4 ksf (NOX)	1 ksf	277 ksf (ROG)
Bank (with drive-through)	17 ksf (NOX)	3 ksf	277 ksf (ROG)
General office building	346 ksf (NOX)	53 ksf	277 ksf (ROG)



**Table 3-1
Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes**

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
Office park	323 ksf (NOX)	50 ksf	277 ksf (ROG)
Government office building	61 ksf (NOX)	12 ksf	277 ksf (ROG)
Government (civic center)	149 ksf (NOX)	27 ksf	277 ksf (ROG)
Pharmacy/drugstore w/ drive through	49 ksf (NOX)	10 ksf	277 ksf (ROG)
Pharmacy/drugstore w/o drive through	48 ksf (NOX)	10 ksf	277 ksf (ROG)
Medical office building	117 ksf (NOX)	22 ksf	277 ksf (ROG)
Hospital	226 ksf (NOX)	39 ksf	277 ksf (ROG)
Hospital	334 beds (NOX)	84 ksf	337 beds (ROG)
Warehouse	864 ksf (NOX)	64 ksf	259 ksf (NOX)
General light industry	541 ksf (NOX)	121 ksf	259 ksf (NOX)
General light industry	72 acres (NOX)	-	11 acres (NOX)
General light industry	1249 employees (NOX)	-	540 employees (NOX)
General heavy industry	1899 ksf (ROG)	-	259 ksf (NOX)
General heavy industry	281 acres (ROG)	-	11 acres (NOX)
Industrial park	553 ksf (NOX)	65 ksf	259 ksf (NOX)
Industrial park	61 acres (NOX)	-	11 acres (NOX)
Industrial park	1154 employees (NOX)	-	577 employees (NOX)
Manufacturing	992 ksf (NOX)	89 ksf	259 ksf (NOX)

Notes: du = dwelling units; ksf = thousand square feet; NO_x = oxides of nitrogen; ROG = reactive organic gases.

Screening levels include indirect and area source emissions. Emissions from engines (e.g., back-up generators) and industrial sources subject to Air District Rules and Regulations embedded in the land uses are not included in the screening estimates and must be added to the above land uses.

Refer to Appendix D for support documentation.

Source: Modeled by EDAW 2009.

3.2. COMMUNITY RISK AND HAZARD IMPACTS

Please refer to Chapter 5 for discussion of screening criteria for local community risk and hazard impacts.

3.3. CARBON MONOXIDE IMPACTS

This preliminary screening methodology provides the Lead Agency with a conservative indication of whether the implementation of the proposed project would result in CO emissions that exceed the *Thresholds of Significance* shown in Table 2-3.

The proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria is met:

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.



2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

3.4. ODOR IMPACTS

Table 3-3 presents odor screening distances recommended by BAAQMD for a variety of land uses. Projects that would site a new odor source or a new receptor farther than the applicable screening distance shown in Table 3-3 from an existing receptor or odor source, respectively, would not likely result in a significant odor impact. The odor screening distances in Table 3-3 should not be used as absolute screening criteria, rather as information to consider along with the odor parameters and complaint history. Refer to *Chapter 7 Assessing and Mitigating Odor Impacts* for comprehensive guidance on significance determination.

Table 3-3 Odor Screening Distances	
Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Refer to Appendix D for support documentation.	

Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. The Air District recognizes a Lead Agency's discretion under CEQA to use established odor detection thresholds as thresholds of significance for CEQA review for CalRecycle regulated facilities with an adopted OIMP.



3.5. CONSTRUCTION-RELATED IMPACTS

3.5.1. Criteria Air Pollutants and Precursors

This preliminary screening provides the Lead Agency with a conservative indication of whether the proposed project would result in the generation of construction-related criteria air pollutants and/or precursors that exceed the *Thresholds of Significance* shown in Table 2-4.

If all of the following *Screening Criteria* are met, the construction of the proposed project would result in a less-than-significant impact from criteria air pollutant and precursor emissions.

1. The project is below the applicable screening level size shown in Table 3-1; and
2. All *Basic Construction Mitigation Measures* would be included in the project design and implemented during construction; and
3. Construction-related activities would not include any of the following:
 - a. Demolition;
 - b. Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
 - c. Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);
 - d. Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
 - e. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

3.5.2. Community Risk and Hazards

Chapter 5, *Assessing and Mitigating Local Community Risk and Hazard Impacts*, contains information on screening criteria for local risk and hazards.