HELIX Environmental Planning

Cottonwood Sand Mine Project

Air Quality Technical Report

PDS2018-MUP-18-023; PDS2018-RP-18-001;
PDS2018-ER-18-19-007

November 2021 | 02975.00002.002

Prepared for:

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Planning & Development Services
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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ADMRT	Air Dispersion Modeling and Risk Tool
amsl	above mean sea level
AQIA	Air Quality Impact Assessment
Attainment Plan	2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County
BACT	Best Available Control Technology
BMPs	best management practices
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CO	carbon monoxide
County	County of San Diego
CY	cubic yard
DPM	diesel particulate matter
°F	degrees Fahrenheit
g/L	grams per liter
GHG	greenhouse gas
H_2S	hydrogen sulfide
lbs	pounds
LLG	Linscott, Law & Greenspan, Engineers
LMA	Local Mobility Analysis
LOS	level of service
mph	miles per hour
MUP	Major Use Permit
NAAQS	National Ambient Air Quality Standard
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen

ACRONYMS AND ABBREVIATIONS (cont.)

O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
Pb	lead
PM_{10}	coarse particulate matter (particulate matter with an aerodynamic diameter of 10 microns or less)
$PM_{2.5}$	fine particulate matter (particulate matter with an aerodynamic diameter of 2.5 microns or less)
PM_4	respirable particulate matter (particulate matter with an aerodynamic diameter of 4 microns or less)
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gas
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SLT	screening-level threshold
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SO_X	oxides of sulfur
SR	State Route
TACs	Toxic Air Contaminants
T-BACT	Toxics Best Available Control Technology
TIA	Transportation Impact Analysis
VMT	vehicle miles traveled
VOC	volatile organic compound
WRAP	Western Regional Air Partnership
WRCC	Western Regional Climate Center
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
USOSHA	U.S. Occupational Safety and Health Administration

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts associated with the proposed Cottonwood Sand Mine Project (project). The evaluation addresses the potential for air pollutant emissions during construction and operation of the project.

The project would result in emissions of air pollutants during the construction and operational phases of the project. Construction and operational best management practices (BMPs) would be implemented by the project, including measures to minimize fugitive dust control emissions, such as watering twice per day, stabilizing storage piles, and enforcing a 15-mile per hour (mph) speed limit on unpaved surfaces. With the inclusion of these BMPs, emissions of all criteria pollutants would be below the daily thresholds during construction and operation of the project and impacts would be less than significant.

Development of the project would be consistent with the San Diego County Air Pollution Control District's (SDAPCD's) 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan) and would not result in cumulatively considerable emissions of nonattainment air pollutants that would exceed the screening level thresholds.

The project would not result in the exposure of sensitive receptors to substantial emissions of pollutants, toxic air contaminants, or odors. The project would not result in the degradation of roadway intersections such that emissions of carbon monoxide (CO) would exceed state or federal standards that would result in a CO hotspot. Construction activities and project operation also would not expose substantial numbers of people to objectionable odors.

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential air quality impacts associated with the proposed Cottonwood Sand Mine Project (project), which includes an evaluation of existing conditions in the project vicinity and an assessment of potential impacts associated with project construction and project operation. The analysis of impacts and report is prepared in accordance with the County of San Diego (County) Guidelines for Determining Significance and Report Content and Format Requirements for Air Quality (County 2007).

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

The project is located at 3121 Willow Glen Drive in the unincorporated communities of Rancho San Diego and Jamul, southeast of the City of El Cajon in eastern San Diego County (County). The site is north of State Route (SR) 94 and east of SR 54 (see Figure 1, *Regional Location*, and Figure 2, *Aerial Vicinity*). More specifically, the project site is located southeast of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road. Steele Canyon Road bisects the project site from north to south, near the center of the project. Principal site access is from Willow Glen Drive, with regional access from SR 54/Jamacha Boulevard and SR 94/Campo Road.

The approximately 280-acre site is situated within the Sweetwater River valley and in the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the site. Elevations on the project site range from approximately 320 feet above mean sea level (amsl) to 380 feet amsl. Land uses in the project vicinity include residential and rural residential development to the north and south, extractive operations to the east, and an adjacent golf course to the southeast. Open space is present in the hills south, east, and west of the site. A National Wildlife Refuge abuts the western end of the property along the river.

1.2.2 Project Description

The project proposes to convert two golf courses to a sand mining operation that would be conducted in three phases over 10 years. The project includes the following discretionary actions:

- A Major Use Permit (MUP) to allow mining activities; and
- A Reclamation Plan (RP) to specify the standards to which the site must be reclaimed upon completion of mining activities in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA).

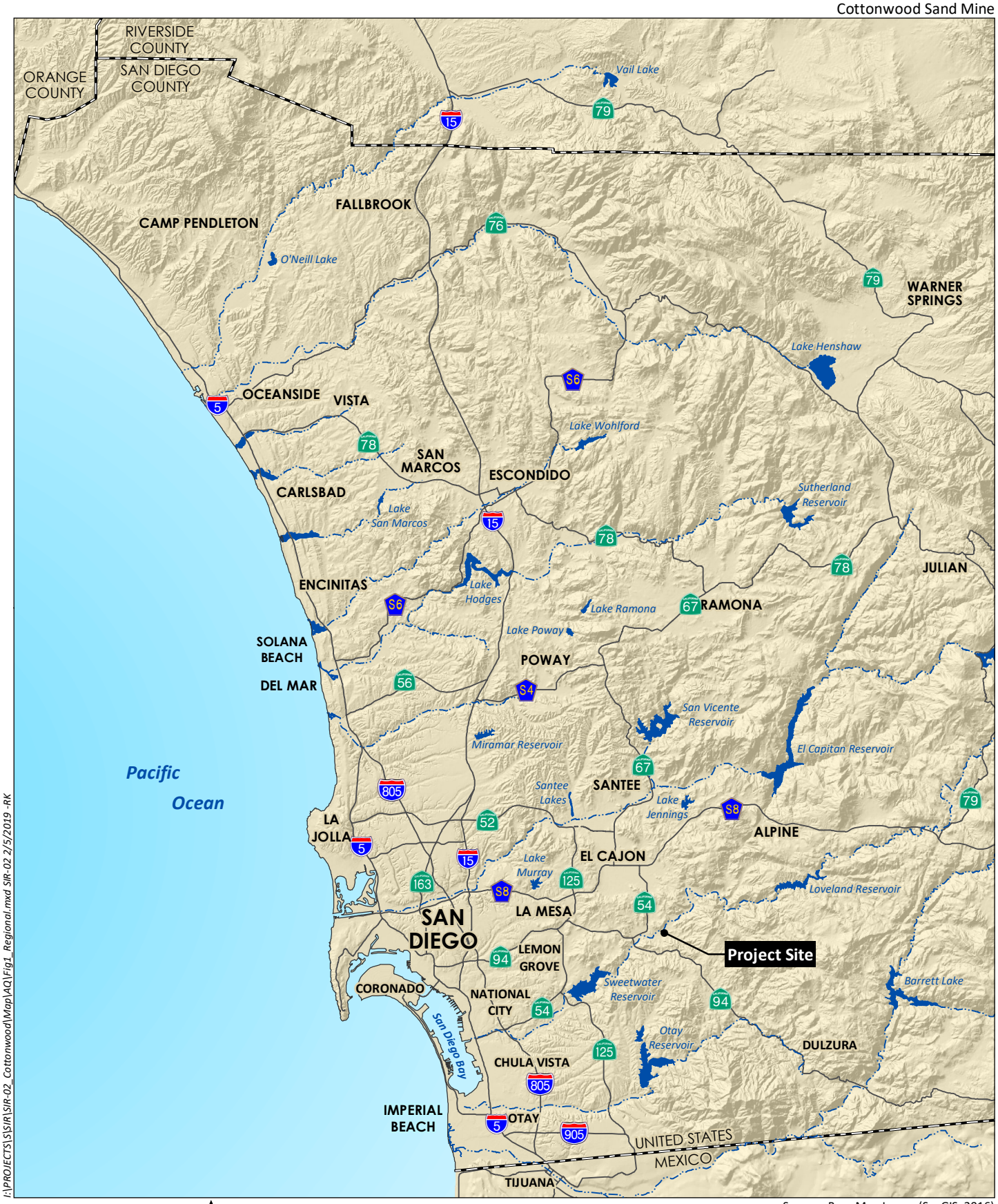
The project's mining operations would extract, process, and transport sand using conventional earth moving and processing equipment. Approximately 4.3 million cubic yards (CY; 6.40 million tons) of material are proposed to be extracted. Mining and extraction activities are expected to produce approximately 3.8 million CY (5.7 million tons) of sand and gravel for market use. Extraction operations would be limited to a maximum production of 380,000 CY (570,000 tons) of construction grade

aggregate (sand) per calendar year, with a 10 percent waste factor from the total amount extracted that includes wash fines and materials undesirable for processing. Material extracted and processed at the site would be suitable for construction uses and would be available to customers in San Diego County. Approximately 214 acres of the approximately 280-acre project site are proposed for extractive use under a phased extraction program. Surface areas not disturbed by mining would be subject to removal of invasive species in the river channel on the southwest portion of the site or be left in their current condition. The existing Sweetwater River channel and the majority of native habitat that currently exists on the site would be retained.

The project would be developed in three continuous mining phases, with sub-phases in each major phase of less than 30 acres per phase, and a fourth phase for cleanup, equipment removal, and final reclamation (see Figure 3, *Mining Phases*). Prior to the initiation of Phase 1, pre-mining activities such as the restriping of Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway, improvements to the access point from Willow Glen Drive to the Phase 1 excavation area, and installation of screening landscaping would be implemented. Phase 1 would begin with the placement of the processing plant west of the existing clubhouse adjacent Willow Glen Drive. The plant site would consist of aggregate processing and washing facilities, three settling ponds, loadout area, and support structures and buildings (e.g., weigh scale, office kiosk, and office trailer). A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas. The conveyor line would be mobile to provide access within each phase and would be relocated as mining activity is concluded in each phase. The mobile conveyor is proposed to minimize the use of on-site roads to transport excavated material between the plant and excavation areas.

Operations would commence west of the Steele Canyon Road bridge, and then generally proceed in a southwest-to-northeast direction across the project site. Existing vegetation, structures, and infrastructure within the golf courses would be removed as mining operations proceed, with approximately 20 to 30 acres subject to mining at any one time. Sand extraction during Phase 1 is anticipated to commence in 2022 and would be located within the area currently occupied by the closed Lakes Course to the west of Steele Canyon Road. Phase 2 is anticipated to commence in 2024 and would be located in the center of the site, east of Steele Canyon Road, on the currently operating Ivanhoe Course. Phase 3 mining operations are anticipated to commence in 2027 and would encompass the remaining acreage of the project site located to the east of Phase 2. Upon approval of the project and MUP, the eastern Ivanhoe Course would be closed, and all golf course operations would cease; the existing golf clubhouse would be demolished near the end of Phase 2 mining. Phase 4 would consist of removal of the processing plant, grading to final contours, final reclamation and revegetation efforts, cleanup, and equipment removal.

Each phase will include three to four sub-phases that are less than 30 acres each to begin reclamation as soon as possible. Excavation in each sub-phase would be completed before moving the conveyor and excavation equipment to the next sub-phase and reclamation would begin in the completed sub-phase. Topsoil and vegetation stripping would occur in each subsequent sub-phase in advance of completing excavation in the preceding sub-phase. The maximum excavation depth is proposed to be 40 feet below the existing land surface. The average depth of excavation is expected to be approximately 20 feet below the existing land surface outside the main Sweetwater River channel. Excavation would not occur within the bottom of the existing low-flow channel in order to retain existing hydrologic characteristics.



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Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

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Source: Aerial (SanGIS 2017)

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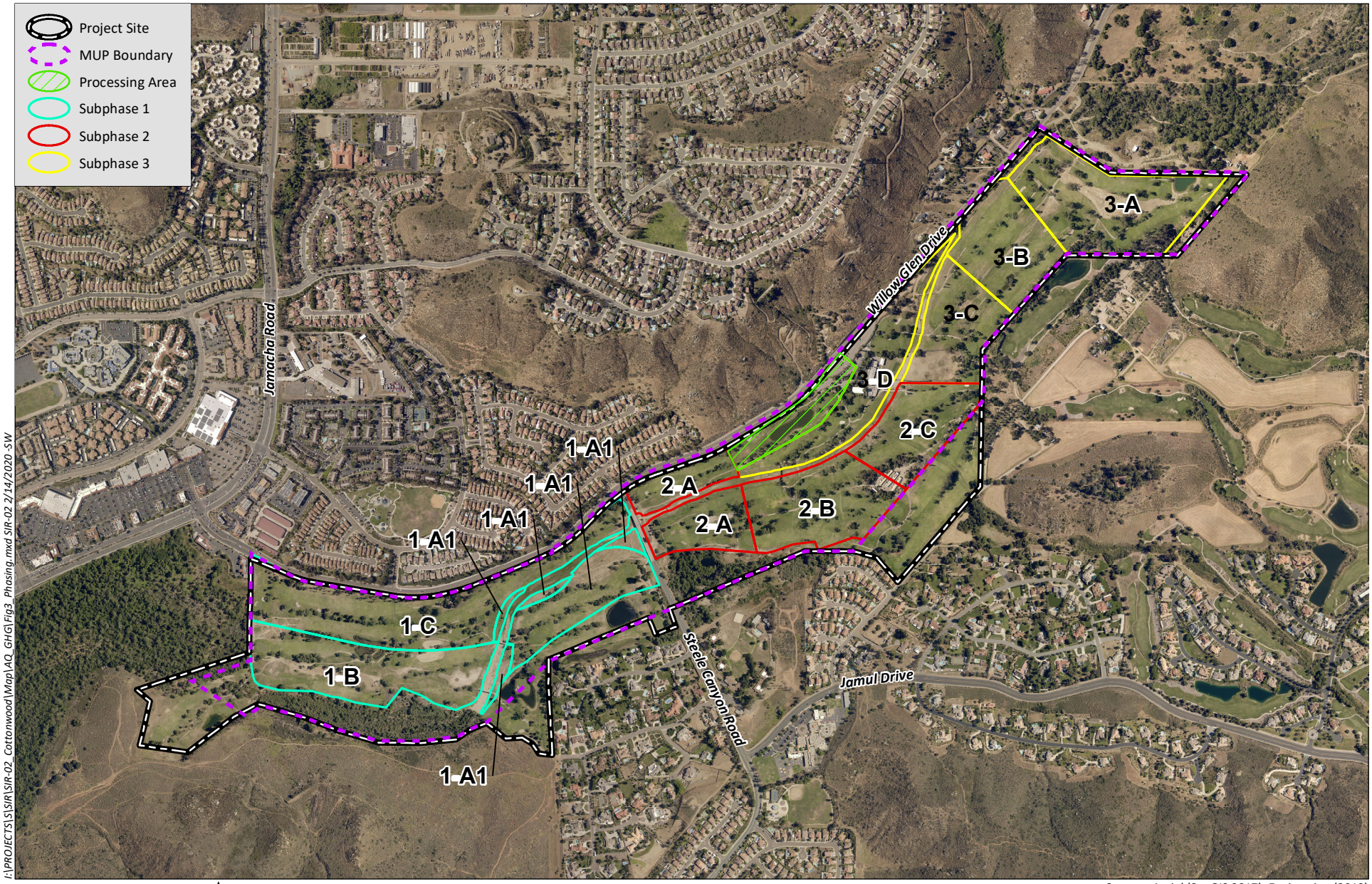
Aerial Vicinity

Figure 2



Source: Aerial (SanGIS 2017); Enviromine (2019)

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Mining Phases

Figure 3

Aggregate material would be processed, sized, and stored in stockpiles up to 25 feet in height near the plant. Wash fines produced from the processing plant would be gathered in three settling ponds located near the plant that would be 300 feet long, 50 feet wide, and 10 feet deep. When ponds are cleaned, wash fines (silt, clay, and organic material) would either be sold as a soil amendment or returned to excavation areas that have been completed to be used as backfill or incorporated into the surface of reclaimed areas as soil amendment.

Sand excavation and processing would occur Monday through Friday, between the hours of 7:00 a.m. and 5:00 p.m. Trucking operations for material sales would occur from 9:00 a.m. to 3:30 p.m. Monday through Friday to avoid peak traffic periods.

The project proposes to restripe Willow Glen Drive between Steele Canyon Road and the project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway per the County Roadway Standards and the General Plan Mobility Element roadway classification. To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane would also be constructed, which would serve as the primary access for mining operations, material sales, employees, and vendors. A new egress point would be established in the approximate center of the existing parking lot. The project also proposes to construct a two-way left-turn lane between the ingress and egress driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver. A pedestrian pathway would be provided along the northern Project frontage/Willow Glen Drive east of Steele Canyon Road to provide pedestrian access within the Project vicinity where there are no existing sidewalks. In addition, a new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) would be necessary as the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road would not allow most large trucks used by service vendors to pass beneath the bridge. Additional access points are proposed to be constructed at the intersection of Willow Glen Drive and Muirfield Drive. The new driveway would be restricted to servicing the mining operations.

Areas disturbed by resource extraction would be progressively reclaimed in an ongoing process that commences when mining operations have ceased within a given sub-phase area and continues until all mining-related disturbance is reclaimed and all equipment involved in these operations has been removed. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil (as applicable), installation of irrigation lines, revegetation of the channel and slopes using appropriate native species, weed control, and monitoring. Upon completion of the extraction activities, the entire site would be reclaimed in accordance with the mining and reclamation plan. Reclamation of the site would include: (1) removal of all manufactured structures; (2) grading to achieve final landforms; and (3) revegetation and monitoring. The final landform is proposed to be a relatively flat plain that gently slopes downward from east to west, with a widened river channel bisecting the length of the site. The reclaimed river channel is expected to average approximately 250 to 300 feet in width; the low-flow channel would be retained to accommodate annual water transfers from Loveland Reservoir to Sweetwater Reservoir. Reclaimed and revegetated areas would be restored to an end use of undeveloped lands, recreational trails, and land suitable for uses allowed by the Open Space land use designation and existing zoning classifications. Revegetation monitoring would continue for a minimum of five years or until revegetation standards are met after this final phase.

1.3 REGULATORY REQUIREMENTS AND BEST MANAGEMENT PRACTICES

1.3.1 Construction and Operation Measures

The project would incorporate best management practices (BMPs) during construction and mining operations to reduce emissions of fugitive dust (refer to Appendix A of this report for a complete discussion of dust control measures the project would incorporate). San Diego County Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line, as follows (SDAPCD 2005):

1. **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

2. **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

   (i) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation:

      (a) track-out grates or gravel beds at each egress point;

      (b) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;

      (c) using secured tarps or cargo covering, watering, or treating of transported material; and

   (ii) be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/ carry-out, only respirable particulate matter (PM_{10}) -efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

1.3.2 Construction and Mining Operation Best Management Practices

The project would implement the BMP control measures listed below to meet the requirements of SDAPCD Rule 55:

- Dirt and aggregate storage piles shall be stabilized by chemical binders, tarps, fencing or other erosion control.

- A 15-mph speed limit shall be enforced on unpaved surfaces.

- During dry weather, dirt and debris spilled onto paved surfaces shall be removed promptly to reduce resuspension of particulate matter caused by vehicle movement. Track out of material onto public roads shall be cleaned daily during dry weather.

- Trucks hauling dirt, sand, soil, or other loose materials shall be covered or two feet of freeboard will be maintained.

- Disturbed areas where construction or extraction is complete shall be hydroseeded or revegetated as quickly as possible and as directed by the County and/or SDAPCD to reduce dust generation.

- Ground disturbance shall be terminated if winds exceed 25 mph.

- All exposed areas shall be watered a minimum of twice per day.

In addition, dust would be controlled in the sand processing and washing facilities using best available control technology (BACT), primarily the application of sufficient water to eliminate visible emissions. Diesel exhaust emissions from on- and off-road equipment would be required to implement BACT for reduction of exhaust particulate matter, involving replacement of older equipment with equipment meeting the U.S. Environmental Protection Agency (USEPA) Tier-4 specifications or retrofitting equipment with diesel particulate filters, in accordance with California Air Resources Board (CARB) regulations and implementation schedules.

2.0 EXISTING CONDITIONS

2.1 EXISTING SETTING

The project site is currently developed with two 18-hole golf courses. The eastern Ivanhoe course is still in operation; the western Lakes course has ceased operations and is not anticipated to reopen. The Sweetwater River channel passes through the site in a northeast to southwest direction. Surrounding land uses include residential, rural residential, extractive operations to the east, and an adjacent golf course. Open space is present in the hills south, east, and west of the site. A National Wildlife Refuge abuts the western end of the property along the Sweetwater River. Land use near the project site is limited by physical constraints with the presence of the Sweetwater River channel and by steep terrain on the north and south.

2.1.1 Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptors to the project site are the ADEONA healthcare facility and single-family homes adjacent to the existing and former golf courses on the south and east sides of the project

site. In addition, there are single- and multi-family homes along the primary routes for aggregate delivery trucks entering and exiting the project site, including along Willow Glen Drive and Jamacha Road. The closest school is the Jamacha Elementary School approximately 1,280 feet (0.24 mile) south of the project Phase 2 mining area. The sensitive receptor locations are shown in Figure 4, *Receptor Locations*.

2.2 CLIMATE/METEOROLOGY AND TEMPERATURE INVERSIONS

The climate in southern California, including the San Diego Air Basin (SDAB), is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity.

The annual average maximum temperature in the project area is approximately 75 degrees Fahrenheit (°F), and the average minimum temperature is approximately 53°F. Total precipitation in the project area averaged approximately 12.9 inches between 1899 and 2006. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2019).

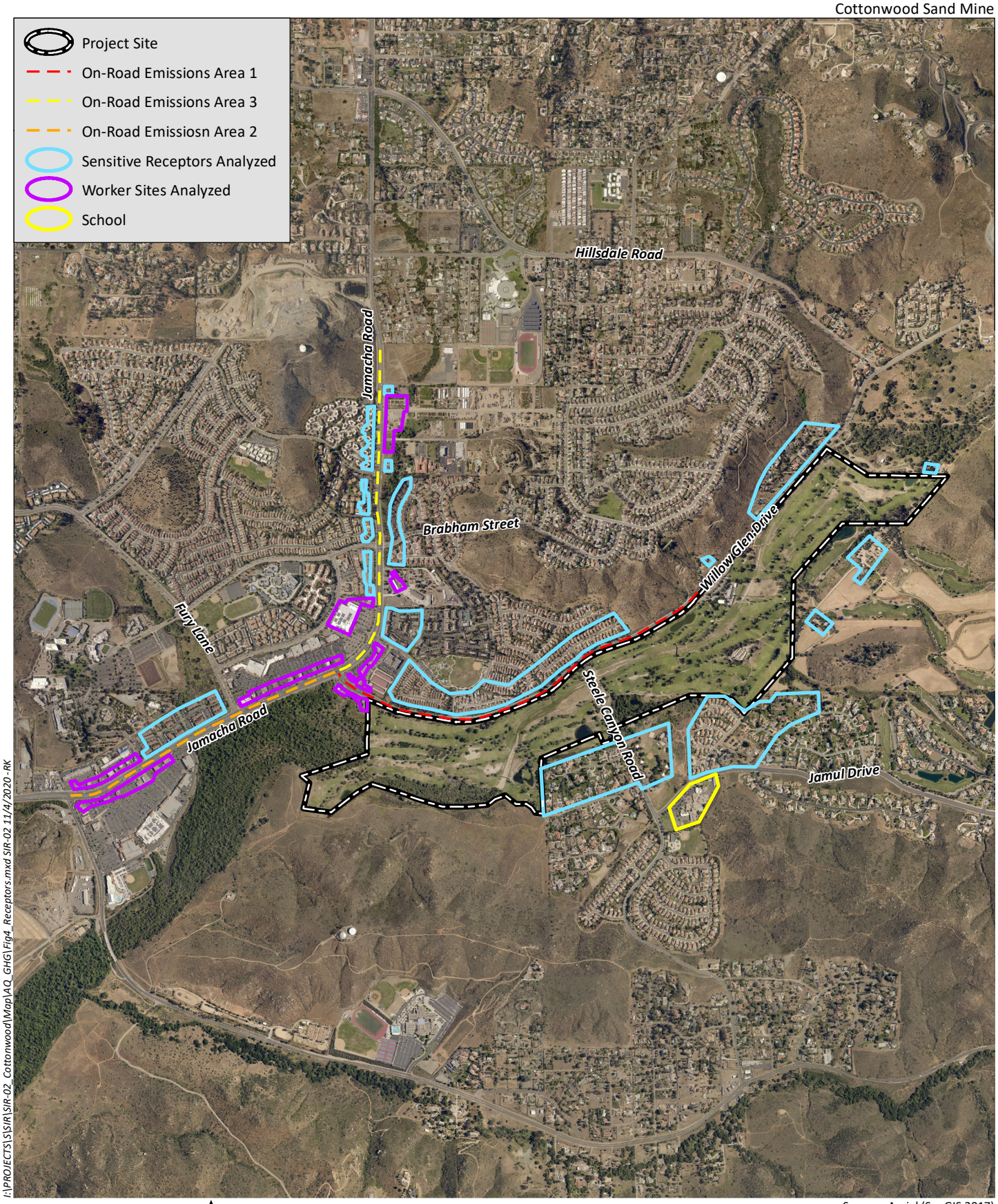
Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and nitrogen dioxide (NO_2) react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

2.3 AIR POLLUTANTS OF CONCERN

2.3.1 Criteria Air Pollutants

Six air pollutants have been identified by the USEPA and CARB as being of concern both on a nationwide and statewide level: ground-level ozone (O_3), CO, NO_2, sulfur dioxide (SO_2), lead, and particulate matter (PM), which is subdivided into two classes based on particle size: coarse PM equal to or less than 10 micrometers in diameter (PM_{10}) and fine PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). These air pollutants are commonly referred to as "criteria air pollutants" because air quality standards are regulated using human health and environmentally based criteria. Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants (secondary pollutants; e.g., ozone and NO_2) in the atmosphere. The principal precursor pollutants of concern are reactive organic gasses ([ROGs] also known as volatile organic compounds [VOCs])[1] and nitrogen oxides (NO_X).

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.



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Source: Aerial (SanGIS 2017)

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Receptor Locations

Figure 4

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants,* based on information provided by the California Air Pollution Control Officers Association (CAPCOA; 2018). Specific adverse health effects to individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. As such, specific health effects from these criteria pollutant emissions cannot be directly correlated to the incremental contribution from a single project.

Table 1
SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.

Pollutant	Major Man-Made Sources	Human Health Effects
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron, and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2018

2.3.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (§39655, subdivision (a).) defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, the CARB identified DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a significant impact on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2018).

Crystalline silica is a common mineral found in the earth's crust. Materials like sand, stone, concrete, and mortar contain crystalline silica. Respirable crystalline silica—very small particles at least 100 times smaller than ordinary sand—is created when cutting, sawing, grinding, drilling, and crushing stone, rock, concrete, brick, and mortar. Potential health risks resulting from inhalation of respirable crystalline silica include silicosis, an incurable lung disease; lung cancer; chronic obstructive pulmonary disease; and kidney disease (USOSHA 2018). In addition to respirable crystalline silica, the dust from mining operations and processing plants can contain very small amounts of toxic metals and elements including arsenic, beryllium, cadmium, copper, chromium, manganese, mercury, nickel, and selenium. Significant exposure to these toxic metals and elements can result in a wide range of health effects including

cancer, long-term chronic conditions, and short-term acute effects. The project would primarily mine, classify, and wash sand. Because dust from native sand can contain these toxic metals and elements, it assumed they are present in all fugitive dust particulate matter emitted during mining and processing operations.

2.4 REGULATORY SETTING

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for criteria pollutants. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and has established CAAQS for additional pollutants, including sulfates, H_2S, vinyl chloride and visibility-reducing particles. Table 2, *California and National Ambient Air Quality Standards,* shows the federal and state ambient air quality standards.

Table 2
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[a]	Federal Standards Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	Same as Primary
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
CO	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
SO_2	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	30-day Avg.	1.5 µg/m^3	–	–

Pollutant	Averaging Time	California Standards	Federal Standards Primary[a]	Federal Standards Secondary[b]
Lead	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	**No Federal Standards**
Sulfates	24 Hour	25 µg/m^3	**No Federal Standards**	**No Federal Standards**
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	**No Federal Standards**	**No Federal Standards**
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	**No Federal Standards**	**No Federal Standards**

Source: CARB 2016

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

[a] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[b] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O_3 = ozone; ppm = parts per million; µg/m^3 = micrograms per cubic meter; PM_{10} = large particulate matter; AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; km = kilometer; – = No Standard.

Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. On April 30, 2012, the SDAB was classified as a marginal nonattainment area for the 8-hour NAAQS for ozone. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$. The SDAB is an attainment area for the NAAQS and CAAQS for all other criteria pollutants (SDAPCD 2017).

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce greenhouse gas (GHG) emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. The new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdraw of the waiver previously provided to California for that State's GHG and zero emissions vehicle (ZEV) programs under Section 209 of the CAA. The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the

standards of the State of California and other states that have adopted the California standards. While the SAFE Vehicle Rule primarily affects GHG emissions, the resulting decreases in anticipated future fuel economy also results in slightly higher emissions of ROG, NO_X and exhaust PM from gasoline-powered cars and light trucks.

CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the County.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). The Attainment Plan, which would be a revision to the state implementation plan (SIP), outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. Projects which are consistent with the growth assumptions used in the Attainment Plan and do not conflict with the control measures in the Attainment Plan, and which do not result in criteria pollutant and precursor emissions in excess of the thresholds adopted by the County (as described in Section 3.1, below), would not hinder the goal of the Attainment Plan to bring the SDAB into compliance with the NAAQS and CAAQS for the protection of public health.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

The current federal and state attainment status for San Diego County is shown in Table 3, *Federal and State Air Quality Designation.*

Table 3
FEDERAL AND STATE AIR QUALITY DESIGNATION

Criteria Pollutant	Federal Designation	State Designation
Ozone (1-hour)	(No federal standard)	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassifiable
Visibility Reducing Particles	(No federal standard)	Unclassifiable

Source: SDAPCD 2017

2.5 AMBIENT AIR QUALITY

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the El Cajon-Lexington Elementary School Monitoring Station located at 533 First Street in El Cajon, approximately 3.4 miles northwest of the project site. The El Cajon-Lexington Elementary School Monitoring Station is located in an inland valley and is representative of the climatological and topographical conditions at the project site. Air quality data for the years 2018 through 2020 are shown on Table 4, *Air Quality Monitoring Data.*

Table 4
AIR QUALITY MONITORING DATA

Air Pollutant	2018	2019	2020
Ozone – El Cajon Monitoring Station			
Max 1-hour (ppm)	0.087	0.094	0.094
Days > CAAQS (0.09 ppm)	0	0	0
Max 8-hour (ppm)	0.079	0.074	0.083
Days > NAAQS (0.070 ppm)	2	2	14
Days > CAAQS (0.070 ppm)	2	2	14
Particulate Matter (PM_{10}) – El Cajon Monitoring Station			
Max Daily ($\mu g/m^3$)	43.0	38.7	*
Days > NAAQS (150 $\mu g/m^3$)	0	0	*
Days > CAAQS (50 $\mu g/m^3$)	0	0	*
Annual Average ($\mu g/m^3$)	23.0	*	*
Exceed CAAQS (20 $\mu g/m^3$)	Yes	*	*

Air Pollutant	2018	2019	2020
Particulate Matter ($PM_{2.5}$) – El Cajon Monitoring Station			
Max Daily (µg/m^3)	36.2	23.8	38.2
Days > NAAQS (35 µg/m^3)	1	0	2
Annual Average (µg/m^3)	9.6	8.5	10.3
Exceed NAAQS (15 µg/m^3)	No	No	No
Exceed CAAQS (12 µg/m^3)	No	No	No
Nitrogen Dioxide (NO_2) – El Cajon Monitoring Station			
Max 1-hour (µg/m^3)	45.0	39.0	44.0
Days > NAAQS (188 µg/m^3)	0	0	0
Days > CAAQS (339 µg/m^3)	0	0	0

Sources: CARB 2021a

Notes: > = exceeding; ppm = parts per million; µg/m^3 = micrograms per cubic meter;
* = Insufficient data available to determine the value.

Monitoring data at El Cajon-Lexington Elementary School Monitoring Station show no exceedances of the state 1-hour standard for ozone from 2018 to 2020. Exceedance of the state and federal 8-hour standards for ozone occurred on two days in 2018, and on two days in 2019, and on 14 days in 2020. Exceedance of the federal daily standard for $PM_{2.5}$ occurred once in 2018. Data from the monitoring station showed no days in exceedance of the maximum daily standards for PM_{10}. The annual average for state PM_{10} was exceeded in 2018.

3.0 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGIES

3.1 SIGNIFICANCE CRITERIA

The County (2007) has approved guidelines for determining significance (County Guidelines) based on Appendix G.III of the State California Environmental Quality Act (CEQA) Guidelines, which provide guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the SDAPCD's Attainment Plan or applicable portions of the SIP;

2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;

3. Result in a cumulatively considerable net increase for which the SDAB is in non-attainment of NAAQS or CAAQS;

4. Expose sensitive receptors (including, but not limited to, residences, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; and/or

5. Create objectionable odors affecting a substantial number of people.

The CEQA Guidelines were revised effective January 1, 2020, and the above standards of significance 2 and 3 were merged, reflecting an acknowledgment that air quality impacts related to exceedance of

NAAQS or CAAQS at the regional level are inherently cumulative impacts. The above standards of significance approved by the County address all recommended Air Quality impact concerns in the revised CEQA Guidelines.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for ozone precursors, NO_X and ROGs, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. The County has adopted as screening-level thresholds (SLTs), the Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources from the SDAPCD Rules 20.2 and 20.3 (SDAPCD 2019a, 2019b). The County has also adopted the SCAQMD's screening threshold of 55 pounds (lbs) per day or 10 tons per year as a significance threshold for $PM_{2.5}$, and the SCAQMD's Coachella Valley screening threshold of 75 lbs per day or 13.7 tons per year significance threshold for VOCs (SCAQMD 2015).

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in Table 5, *Screening-Level Thresholds for Air Quality Impact Analysis*.

Table 5
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant	Total Emissions		
Construction Emissions (pounds per day)			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Pounds per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOCs)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: County 2007; SDAPCD 2019a, 2019b; SCAQMD 2015.
T-BACT = Toxics Best Available Control Technology

3.2 METHODOLOGY

The air quality impact analysis contained in this report was prepared in accordance with the methodologies provided by the County as included in the *Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality* (County 2007).

Criteria pollutant emissions for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model was developed for CAPCOA in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2021). The input data and subsequent construction and operation emission estimates for the proposed project are discussed below. Emissions calculations sheets and CalEEMod output files for the project are included in Appendix B and Appendix C, respectively, to this report.

3.2.1 Construction Emissions

CalEEMod incorporates CARB's EMFAC2017 model for on-road vehicle emissions and the OFFROAD2017 model for off-road vehicle emissions. CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the number of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The model calculates emissions of CO, PM_{10}, $PM_{2.5}$, SO_2, and the ozone precursors ROG and NO_X.

Construction activities including site access, improvements to Willow Glen Drive, site preparation, demolition, and grading would be required prior to the start of mining (prior to Phase 1) to clear land and prepare a pad for the sand processing area. Demolition activities would also be required prior to commencement of mining phases 2 and 3. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities of earth and debris to be moved. Heavy equipment would be required during site preparation, demolition, and grading. Because all equipment and structures would be mobile and/or prefabricated, the project would not require building construction, paving, or architectural coatings (e.g., painting). Construction equipment estimates are based on default values in CalEEMod and input from the project applicant. Table 6, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 6
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Phase	Equipment	Number
Site Access (Prior to Phase 1 only)	Graders	1
	Rubber Tired Dozers	1
	Tractors/Loaders/Backhoes	1
Willow Glen Drive Improvements – Demolition (Prior to Phase 1 only)	Concrete/Industrial Saws	1
	Graders	1
	Water Trucks	1
Willow Glen Drive Improvements – Grading (Prior to Phase 1 only)	Crawler Tractors	1
	Rollers	1
	Skid-Steer Excavators	1
Willow Glen Drive Improvements – Paving (Prior to Phase 1 only)	Water Trucks	1
	Pavers	1
	Paving Equipment (curb former)	1
Willow Glen Drive Improvements – Striping (Prior to Phase 1 only)	Rollers	1
	Crane (light installation)	1
Site Preparation (Prior to Phase 1 only)	Striping Truck	1
	Tractors/Loaders/Backhoes	1
Demolition (Prior to Phases 1, 2 and 3)	Concrete/Industrial Saws	1
	Excavators	1
	Rubber Tired Dozers	1
	Excavators	1
Grading (Prior to Phase 1 only)	Graders	1
	Rubber Tired Dozers	1
	Tractors/Loaders/Backhoes	3

Source: CalEEMod (output data, including equipment horsepower, is provided in Appendix C).

The construction schedule was determined by using CalEEMod defaults, input from the project applicant, and consideration of the size of the processing pad and estimates of structures to be demolished from aerial images. Construction and demolition activities prior to Phase 1 would commence as early as February 2022 and finish by May 2022. Demolition activity for Phase 2 and Phase 3 is assumed to occur near the end of the prior phase and concurrent with mining activities. Phase 2 demolition would last approximately 10 working days and Phase 3 demolition (which includes the golf course clubhouse) would last approximately 20 working days.

The quantity, duration, and the intensity of construction activity have an effect on the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive schedule (i.e., fewer daily emissions occurring over a longer time interval). A complete listing of the assumptions used in the analysis and model output is provided in Appendix C of this report.

Although it was assumed that all of the dust control measures listed in Section 1.3 of this report would be implemented, to model the most conservative construction estimates, only application of water

twice per day and limiting vehicle speed to 15 mph during construction activities were taken into consideration. Based on CalEEMod defaults, the control efficiency for watering twice per day is 55 percent (CAPCOA 2021).

3.2.2 Operational Emissions

3.2.2.1 On-Road Vehicle Emissions

Operational emissions were modeled for each mining phase. Criteria air pollutant emissions from on-road vehicle trips (including sand delivery trucks, employee vehicles, and vendor vehicles) associated with each mining phase of the project were modeled using CalEEMod version 2020.4.0. The trip rates used in the model were provided in the Local Mobility Analysis (LMA) for the project (Linscott, Law & Greenspan, Engineers [LLG] 2021a). Emissions were modeled for the first full year of operation for each mining phase: assumed to be 2023 for Phase 1; 2025 for Phase 2; and 2028 for Phase 3. CalEEMod's default motor vehicle emission rates and fleet mix for San Diego County are based on CARB's EMFAC2017 database. The CalEEMod option to account for the SAFE Vehicles Rule in accordance with CARB off-model EMFAC2017 adjustments factors was selected. Sand delivery trip distance used in the model were provided in the Transportation Impact Analysis (TIA) for the project (LLG 2021b). The San Diego County default CalEEMod values for vehicle speeds, worker and vendor trip lengths, and trip purpose were used. Model output data sheets are included in Appendix C.

3.2.2.2 Off-Road Vehicle Exhaust Emissions

Criteria air pollutant emissions from vehicle exhaust due to all vehicle and equipment movement on unpaved surfaces within the project site were calculated using emissions and equipment data for San Diego County from the CARB Off-road Diesel Analysis & Inventory, OFFROAD2017 Database (CARB 2021b). To be conservative, it was assumed that the mining equipment used would be a mixture of new and used equipment. The age of off-road equipment analyzed corresponds to the average ages of equipment for the year 2022 in San Diego. All equipment was assumed to comply with the minimum fleet average exhaust emissions for off-road diesel equipment per CARB regulations. The equipment type, numbers, and usage used in mining and processing operations for the project were identified in the *Project Description for the Cottonwood Sand Mining Project* prepared by EnviroMINE, Inc. and are listed in Table 7, *Operational Off-Road Diesel Equipment* (EnviroMINE 2018). Typical load factors for off-road equipment are provided in the CARB Off-road Diesel Emission Factors: Load Factor Look Up Table (CARB 2017). The spreadsheet print files used in calculating off-road vehicle exhaust criteria air pollutant and precursor emissions are included in Appendix B.

Table 7
OPERATIONAL OFF-ROAD DIESEL EQUIPMENT

Equipment	Horsepower	Number	Purpose	Equipment Operating Hours per Day
Loader (Cat 988K)	541	2	Sand Extraction, Reclamation	8
Excavator (Cat 349)	396	1	Sand Extraction, Reclamation	6.4
Dozer (Cat D8T)	354	1	Mine area clearing/grading, Reclamation	6.4
Loader (Cat 988K)	541	1	Highway Truck Loading	6.4
Loader (Cat 966M-BR)	276	1	Highway Truck Loading	1.6
Skid Steer Loader (Cat 246D)	74	1	Highway Truck Loading	4
Off-Road Haul Truck (Cat 740EJ)	496	1	Reclamation Fines Hauling	3.2
Supervisor/Maintenance Truck	450	1	Quality Control/Maintenance	1.2
Water Truck (4000 gallon)	350	1	Dust Suppression	6
Grader (Cat 140K)	171	1	Reclamation Finish Grading	2.4
Seeding Truck	450	1	Hydroseeding	N/A[1]

Source: EnviroMINE 2018.

[1] Hyrdroseeding during mine operation assumed to require a 4,000-gallon seeding truck for 8 hours per day, 3 days per year

3.2.2.3 Off-Road Operational Fugitive Dust Emissions

Fugitive dust emissions from vehicle and equipment movement on unpaved surfaces were calculated using emissions factors from the USEPA Publication AP-42, *Compilation of Air Pollutant Emission Factors Vol. I: Stationary, Point, and Area Sources*. Fugitive dust emissions from open storage stockpiles, loading, transferring, and processing sand were calculated using emission factors from the SDAPCD Air Toxics "Hot Spots" and Emission Inventory Program (SDAPCD 1999). Representative emissions factors for the following activities were estimated using the source documents identified for each activity type:

- Mining pit activity (SDAPCD Mineral Products Industry – Quarry Activity – Sand Mining [SDAPCD 1999]).
- Storage piles (SDAPCD Mineral Products Industry – Open Material Storage Piles – Sand Mining [SDAPCD 1999]).
- Truck travel on unpaved roads (13.2.2 Unpaved Roads [USEPA 2006b]).
- Worker and other light/medium duty vehicle travel on unpaved surfaces (13.2.2 Unpaved Roads [USEPA 2006b]).
- Material loading, conveyor transfer, and radial stacking (SDAPCD Mineral Products Industry – Aggregate Transfer Point [SDAPCD 1999]).
- Size classification, screening, and sand processing (SDAPCD Mineral Products Industry – Aggregate Screening [SDAPCD 1999]).

Although it was assumed that all of the dust control measures listed in Section 1.3 of this report would be implemented, to model the most conservative operational dust estimates, only application of water twice per day and limiting vehicle speed to 15 mph on unpaved surfaces were taken into consideration. The control efficiency for the application of water twice daily (55 percent) was based on the CalEEMod default (CAPCOA 2021). The AP-42 emission factors for travel on unpaved roads assume an uncontrolled speed of 45 mph. The control factor for a reduction in speed from 45 to 15 mph (67 percent) was based on guidance and calculations from the Western Regional Air Partnership's (WRAP) *Fugitive Dust Handbook,* Chapter 6 – *Unpaved Roads* (WRAP 2006). The spreadsheet print files used in calculating off-road fugitive dust emissions are included in Appendix B.

3.2.2.4 Wind Erosion

Wind-blown fugitive dust is most prevalent if high wind and loose soil are substantial characteristics for a given land use (USEPA 2006a). The dust control measures listed in Section 1.3 of this report would be implemented, including watering or stabilizing all exposed areas, unpaved roads, and stockpiles; and terminating ground disturbance when wind gusts exceed 25 mph. Stockpiles which are unused for six or more months would either be seeded or covered to prevent wind erosion. With implementation of the fugitive dust BMPs, the wind erosion potential of exposed surfaces and stockpiles would be negligible. Wind-blown fugitive dust emissions during disturbance of surfaces and stockpiles are included in the fugitive dust calculations described in Section 3.2.2.3, above. Therefore, wind erosion fugitive dust emissions are not anticipated to be substantial and are not estimated in this report.

3.2.2.5 Reclamation Activities

As mining operations are completed, all areas disturbed by mining and processing activities would be graded and revegetated in accordance with the required mining and reclamation plans. Reclamation would be implemented in those areas of the site for which no further mining is planned and concurrently with mining using the same equipment used for clearing and sand extraction activities, including a grader and the fines off-road hauling truck, as well as a seeding truck (as shown in Table 7). Accordingly, the maximum daily and annual average emissions estimates account for grading and replacing topsoil as well as planting, where mining is complete. Once all mining is complete, final reclamation activities (Phase 4) would occur. During Phase 4, final grading of the last Phase 3 extraction area would be accomplished in a few days with the grader and dozer listed in Table 7. In addition, a small tractor with a cultivator and a hydroseed truck may be used for several days for final revegetation. Because the total equipment used for final reclamation activities (a dozer, grader, hydroseed truck, and small tractor) would be a small fraction of equipment used for operations (all of the equipment listed in Table 7), the intensity (and pollutant emissions) of these final reclamation activities would be substantially lower than the maximum daily and annual emissions analyzed for project operations. Therefore, these emissions are not estimated in this report.

3.2.3 Impacts to Sensitive Receptors

As discussed in Section 2.3.1, above, criteria pollutants that would be generated by the proposed project are associated with some form of health risk. Existing models have limited sensitivity to small changes in criteria pollutant concentrations; attempting to correlate the small amount of project-generated criteria pollutants specific health effects or additional days of nonattainment would not yield meaningful results. Consequently, an analysis of impacts on human health associated with project-generated regional ROG and NO_X emissions is not included in this assessment.

However, localized pollutants generated by a project can directly affect nearby sensitive receptors. Consistent with the current state of practice and published guidance by CAPCOA (2009) and CARB (2000), the analysis in this assessment focuses only on those pollutants with the greatest potential to result in a significant, material impact on human health, which are TACs and locally concentrated CO (i.e., CO hot spots).

3.2.3.1 Toxic Air Contaminants

A Health Risk Assessment (HRA) was completed to support the analysis regarding the potential impacts on the health of nearby potential sensitive receptors and off-site workers due to TACs generated by the long-term operation of the project. The HRA was completed following OEHHA *Air Toxics Hot Spots Program–Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (2015).

Almost all diesel exhaust particle mass is 10 microns or less in diameter. Therefore, it was conservatively assumed that all PM_{10} emissions from project diesel powered vehicle exhaust emissions are DPM.

The fugitive dust trace metal concentrations are based on default values available through the SDAPCD's Air Toxics "Hot Spots" and Emission Inventory Program (SDAPCD 1999). TACs analyzed include arsenic, beryllium, cadmium, chromium (hexavalent and non-hexavalent), copper, lead, manganese, mercury, nickel, selenium, and crystalline silica.

A 30-day lead concentration screening analysis for evaluating sub-chronic lead exposure was completed following direction from the SDAPCD and maximum off-site exposure concentration limits from the CARB's *Risk Management Guidelines for New, Modified, and Existing Sources of Lead* (CARB 2001).

Dispersion Modeling

Localized concentrations of pollutants were modeled using the Lakes AERMOD View version 10.0.1. The Lakes program utilizes the USEPA's AERMOD gaussian air dispersion model. Because each phase of mining would concentrate the operation of sand extraction equipment in different areas, potentially affecting different sensitive receptors, separate dispersion models were completed for each mining phase.

Emissions from vehicles operating in the sand extraction area and the sand processing area, including diesel exhaust and fugitive dust, were modeled as volume sources with an initial horizonal dimension of 50 meters (14 feet), an initial vertical dimension of 4.5 meters (14.8 feet), and a release height of 3 meters (9.8 feet) located at the approximate center of each mining phase sub area. Emissions from the conveyors moving sand from the extraction area to the processing plant, and the radial stackers moving sand from the processing plant to storage piles were modeled as volume line sources with an initial width of 1.8 meters (6 feet), a release height corresponding to the conveyor/stacker transfer point height, and an initial vertical dimension 1.5 times the transfer point height. Emissions from on-site haul routes and access roads (including diesel exhaust and fugitive dust) were modeled as a volume line source following the recommendations of the USEPA *Haul Road Workgroup Final Report* (2011). Emissions from sand delivery trucks (diesel exhaust only) operating on public roads were also modeled as volume line sources using the USEPA haul road modeling parameter recommendations and the trip distributions calculated in the TIA (LLG 2021a). Line volume sources for on-road truck traffic were modeled for: a 1.2-mile segment of Willow Glen Drive from the project entrance west to Jamacha Drive; a 1.4-mile segment of Jamacha Drive from Willow Glen Drive southwest to Campo Road; and a segment

of Jamacha Drive extending north from Willow Glen Drive approximately 1 mile. Each segment was apportioned a part of the total on-road emissions corresponding to the fraction of the total haul distance (segment length divided by average trip length) times the trip distribution percentage.

Variable emissions were selected in the model with daily on-site exhaust and fugitive dust emissions assumed to occur evenly from 7:00 a.m. to 5:00 p.m., Monday through Friday, and off-site sand truck delivery emissions assumed to occur evenly from 9:00 a.m. to 3:30 p.m. Monday through Friday.

CARB provides pre-processed meteorological data suitable for use with AERMOD (CARB 2015a). The available data set most representative of conditions in the project vicinity was from the Gillespie Field Airport station, approximately 6.5 miles northwest of the project site. The Gillespie Field Airport data set includes 5 years of data collected from 2009 to 2013. Rural dispersion coefficients were selected in the model to reflect the relatively undeveloped nature of the project site and the region downwind (east).

United States Geological Survey (USGS) National Elevation Dataset (NED) files with a 10-meter resolution covering were used in the model to cover the analysis area.

For the 30-day lead concentration modeling, the annual average lead emissions were assumed to occur in a 30-day period: an hourly emissions rate was calculated by dividing the annual emissions by 720 (the number of hours in a 30-day period). To be conservative in calculating the highest lead screening concentration, variable emissions were not used (emissions were assumed to be constant 24 hours per day).

The Lakes AERMOD View output reports (which include all modeling parameters selected) are included in Appendix D.

Risk Determination

To develop risk isopleths (linear contours showing equal level of risk), and ensure the area of maximum impact was captured, receptors were placed in cartesian grids covering the project site, off-site workers, sensitive receptors, and portions of the haul route modeled. Additional discrete receptors were placed at the closest non-project worker buildings, at the residential property line of the closest identified sensitive receptors surrounding the project site, along the segments of the haul route included in the model, and at the closest school to the project site (see Figure 4).

Health risks resulting from localized concentration DPM and fugitive dust trace TACs were estimated using the CARB Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 21081. The plot files of localized concentrations from AERMOD were imported into the ADMRT model to determine health risks. Sand extraction for each mining phase would last 3 to 4 years. However, emissions from the processing area and on-road truck deliveries would last for the duration of the project mining (10 years). Therefore, to be conservative, for the residential and worker cancer risk, an exposure duration of 10 years was selected. The model conservatively assumes that residents would be standing and breathing at the location of the property line closest to the project site or haul route every day between 17 and 21 hours per day (depending on the age group, starting with fetuses in utero in the third trimester of pregnancy) for 10 years. For off-site worker cancer risk, an exposure duration of 10 years was selected with an assumption of 8 hours per day, 5 days per week of exposure, in accordance with the OEHHA guidelines (2015). Because the dispersion modeling used variable emissions approximately equivalent to typical worker hours, no worker adjustment factors were used. Fraction of time at home adjustments for residential exposure were selected for age bins 16 years and up. Because

a school is located within 0.25 mile of the project site, fraction of time at home adjustments were not selected for age bin below 16 years. The output of the modeling provides unitized ground level concentrations of the modeled constituent in micrograms per cubic meter for the maximum one-hour and the average over the 5-year period of the meteorological data. An inventory of maximum hourly and average annual emissions for each source of TACs was entered into the ADMRT program. The ADMRT combines the emissions inventory, the ground level concentration plots from AERMOD, and pollutant-specific risk factors to determine the health risks at each receptor point identified in the model. The ADMRT output files are included in Appendix D.

Cancer burden evaluates an overall population's increased cancer risk and is defined as the increases in cancer cases in the population due exposure to TACs from a project. Cancer burden is calculated differently from individual risk. Per OEHHA, cancer burden uses a 70-year exposure to evaluate population-wide cancer risk, and the cancer burden only evaluates residential exposure (not schools or worksites). Cancer burden is calculated by multiplying the number of residents exposed to an incremental excess cancer risk of 1 in 1 million by the estimated incremental excess cancer risk of the maximum exposed individual resident (MEIR). The SDAPCD or the County have not adopted thresholds for cancer burden and the operation of the project is expected to last only 10 years. However, to be conservative and provide comparison to an existing threshold, cancer burden was estimated for the project (using a 70-year exposure) and compared to the SCAQMD's threshold of an increase in cancer cases in the population of 0.5 (SCAQMD 2015).

4.0 PROJECT IMPACT ANALYSIS

4.1 CONFORMANCE TO THE ATTAINMENT PLAN

4.1.1 Guideline for the Determination of Significance

Would the project conflict with or obstruct the implementation of the SDAPCD's Attainment Plan or applicable portions of the SIP?

The Attainment Plan outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD relies on the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through the implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from the CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County. As such, projects that propose development that is consistent with the growth anticipated by the local jurisdictions' general plans would be consistent with the Attainment Plan. In the event that a project proposes development that is less dense than anticipated within the General Plan, the project would likewise be consistent with the Attainment Plan. If a project proposes development that is greater than

that anticipated in the County General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project would be in conflict with the Attainment Plan and SIP and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine whether the project and the surrounding projects exceed the growth projections used in the Attainment Plan for the specific subregional area.

4.1.2 Significance of Impacts Prior to Mitigation

The project site is currently zoned as Open Space (S80), Specific Planning Area (S88), and Holding Area (S90). The S80 designation is used to provide appropriate controls for areas considered generally unsuitable for intensive development, including hazard or resource areas, public lands, recreation sites, or lands subject to open space easement or similar restrictions. The S90 zone is intended to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Mineral extraction use is allowed within the S80 and S90 classifications with the issuance of a Major Use Permit. S88 zoning restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. The two project parcels zoned S88 would not be actively mined and the end use for both parcels would be open space, consistent with the Rancho San Diego Specific Plan. The entire project site is identified in the General Plan Land Use Element Open Space-Recreation (OS-R) land use designation, which applies to large, existing recreational areas and allows for active and passive recreational uses. The project does not have a residential component and would not result in direct or indirect population growth in the County. The project is anticipated to employ approximately nine persons, less than the employment from the project site's use as golf courses. Therefore, the project would be consistent with the General Plan, the Valle De Oro Community Plan, and the Rancho San Diego Specific Plan and consistent with the growth projections from those plans used in development of the Attainment Plan and the SIP.

The County of San Diego has developed a number of strategies and plans aimed at improving air quality. The aggregate produced by the project must be transported to the project sites where it would be used. SANDAG released their *San Diego Region Aggregate Supply Study* in January 2011, which presented information related to the average miles traveled, and associated air quality emissions produced, by vehicles delivering aggregate to project sites (SANDAG 2011). The document explains that if the aggregate is transported by truck from current local mines to local project sites, the average distance between existing mines and construction sites in the region is 26 miles, which is used for vehicle miles traveled (VMT) projections in SANDAG's 2050 RTP for San Diego County, which in turn is used to develop mobile source emissions projections and control strategies for the Attainment Plan and SIP. Other options for aggregate transportation include truck, rail, and barge transportation from regions outside of the San Diego region (should the aggregate originate from a different region). The project VMT analysis concluded that the average one-way sand hauling distance for the project would be 16 miles based on the midpoint location of existing ready-mix concrete batch plants (the primary market for the project's sand) located within San Diego County (LLG 2021b). Although the project would generate new VMT in the region, the project would result in lower aggregate hauling VMT than assumed in the development of mobile source emissions projections and control strategies for the Attainment Plan and SIP.

The 570,000 tons of sand produced annually at the project site is anticipated to be supplied entirely to local markets within the County. A VMT comparison of existing and near-term future sand transport in the region (sand procured within the county and imported into the county), and the project sand transportation was completed in the TIA. The VMT analysis concluded that the project's production and

local distribution of 570,000 tons annually, which would reduce the import of this amount of sand from out-of-county suppliers, would result in a 79.2-percent reduction in region-wide VMT for sand transportation in the existing plus project scenario and a 75.8-percent reduction in region-wide VMT for sand transportation in the near-term plus project scenario (LLG 2021b). Consequently, the regional mobile-source air quality impacts produced by the project aggregate transportation would be offset by the reduction of aggregate import transportation impacts and the project would not result in an increase in the emissions from aggregate hauling over that assumed in development of the Attainment Plan.

The Conservation and Open Space Elements of the County General Plan present goals and policies designed to balance the regional need for construction materials with the community need for freedom from any disturbing effects of mining and aggregate processing activities while protecting public health (County 2011). The goal of the long-term production of mineral materials is to meet the local County
average annual demand, while maintaining permitted reserves equivalent to a 50-year supply, using operational techniques and site reclamation methods consistent with California standards so that adverse effects on surrounding land uses, public health, and the environment are minimized. Implementation of these policies supports the controls for mobile source emissions in the Attainment Plan and SIP:

COS-10.5 Reclamation Plans. Require all mining projects to be conducted in accordance with a reclamation plan that meets the minimum reclamation standards required by the California Surface Mining and Reclamation Act and the associated State Mining and Geology Board regulations. Require the reclamation plan to include a phasing plan that provides for the completion of the surface mining on each segment of the mined lands so that the reclamation can be initiated at the earliest possible time on those portions of the mined lands that will not be subject to further disturbance by the surface mining operation.

COS-10.6 Conservation of Construction Aggregate. Encourage the continued operation of existing mining facilities and streamline the permitting of new mining facilities consistent with the goal to establish permitted aggregate resources that are sufficient to satisfy 50 years of County demand.

COS-10.8 New Mining Facilities. Develop specific permit types and procedures for the authorization of new mining facilities that recognize the inherent physical effects of mining operations and the public necessity for available mineral resources adequate to meet local demand, in accordance with PRC Section 2762.

In addition to the policies in the General Plan, the project would be required to comply with the SDAPCD Rules and Regulations. The Attainment Plan control measures include the assumptions that new facilities with the required air permits would be consistent with the goals of the SIP. The project, when constructed and operated using the BACT and BMPs described in section 1.3.2, would comply with all of the standards of the SDAPCD Rules and Regulations. The Attainment Plan also assess the impact of all emission sources and all control measures, including those under the jurisdiction of the CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products).

4.1.3 Mitigation Measures and Design Considerations

Impacts would be less than significant and no mitigation is required.

4.1.4 Conclusions

The project would be consistent with and support the General Plan goals of long-term production of mineral materials to meet the local County average annual demand and establishment of permitted aggregate resources that are sufficient to satisfy 50 years of County demand. The project would be consistent with the land use designation and resulting growth projections in the General Plan, the Valle De Oro Community Plan, and the Rancho San Diego Specific Plan used in development of the Attainment Plan and SIP. In addition, the project would result in a reduction of sand transport VMT in the region (and a reduction in the related aggregate hauling emissions). Therefore, the project would not conflict with or obstruct the implementation of the San Diego Air Pollution Control District's Attainment Plan or applicable portions of the SIP and the impact would be less than significant.

4.2 CONFORMANCE TO FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

4.2.1 Construction Impacts

Project construction activities would have the potential to adversely affect air quality through the generation of criteria pollutants (which includes fugitive dust emissions) and TAC emissions. Developing the project site for mining would require site preparation, demolition and grading prior to Phase 1 to prepare the processing area pad, install settling ponds, and improve site access. Additional demolition would be required prior to Phase 2 and Phase 3. Based on the County Guidelines (2007), construction impacts would be potentially significant if they exceed the quantitative screening-level thresholds for attainment/maintenance pollutants (NO_2, SO_2, and CO), and would result in a significant impact if they exceed the screening-level thresholds for nonattainment pollutants (ozone precursors and PM).

4.2.1.1 Guideline for the Determination of Significance

Would the project construction result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?

To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD (as shown in Table 5).

4.2.1.2 Significance of Impacts Prior to Mitigation

General Construction Activities

Table 8, *Estimated Daily Construction Emissions,* provides a summary of the worst-case daily construction emission estimates by activity. As noted above, it was assumed that dust control measures (watering a minimum of two times daily and a 15-mph speed limit on unpaved surfaces) would be employed to reduce emissions of fugitive dust during construction.

Table 8
ESTIMATED DAILY CONSTRUCTION EMISSIONS

Construction Activity	ROG*	NO_X*	CO*	SO_X*	PM_{10}*	$PM_{2.5}$*
Phase 1 Site Access	1.5	15.8	7.8	<0.1	4.0	2.2
Roadway Improvements - Demolition	1.1	10.1	7.3	0.0	0.5	0.4
Roadway Improvements - Grading	1.3	13.8	9.5	0.0	1.0	0.6
Roadway Improvements - Paving	1.1	8.3	8.2	0.0	0.7	0.4
Roadway Improvements - Striping	16.1	6.2	5.4	0.0	0.6	0.3
Phase 1 Demolition	1.4	13.5	10.8	<0.1	0.8	0.7
Phase 1 Site Preparation	1.0	10.5	6.0	<0.1	3.5	2.0
Phase 1 Grading	2.0	20.9	15.8	<0.1	4.3	2.5
Phase 2 Demolition	1.2	11.1	10.3	<0.1	0.7	0.5
Phase 3 Demolition	1.1	10.8	10.3	<0.1	1.2	0.6
Maximum Daily Emissions	**16.1**	**20.9**	**15.8**	**<0.1**	**4.3**	**2.5**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod, output files included in Appendix C.
Note: Estimates assume the implementation of fugitive dust measures (watering twice daily and a 15-mph speed limit on unpaved roads).
* Pollutant Emissions (pounds per day)
ROG = reactive organic gas; CO = carbon monoxide; NO_X = oxides of nitrogen; SO_X = oxides of sulfur; PM_{10} = particulate matter of 10 microns or less; $PM_{2.5}$ = particulate matter of 2.5 microns or less

As shown in Table 8, without mitigation, emissions of all criteria pollutants would be below the daily thresholds during construction. The Phase 2 and Phase 3 demolition activities would overlap with the Phase 1 and Phase 2 mining operations, respectively, and are included in the Operational Impact analysis, below. The project's construction activities would not result in a violation of the NAAQS or CAAQS and the impact would be less than significant.

4.2.1.3 Mitigation Measures and Design Considerations

As discussed in Section 1.3, the project would incorporate construction BMPs to reduce project-related emissions to satisfy the requirements of the SDAPCD Rule 55. Not all BMPs were included in the project's construction emissions calculations, thus implementation of the BMPs would further reduce fugitive dust (PM_{10} and $PM_{2.5}$) emissions resulting from project construction activity.

4.2.1.4 Conclusions

The project's construction activities would not result in a violation of the NAAQS or CAAQS and the impact would be less than significant.

4.2.2 Operational Impacts

Project operational activities would have the potential to adversely affect air quality through the generation of criteria pollutants (which includes fugitive dust emissions) and TAC emissions. Operation of the project through the three mining phases would result in emissions of criteria pollutants and TAC from exhaust emissions from the operation of off-road diesel powered equipment; fugitive dust emissions from off-road equipment moving on unpaved surfaces; fugitive dust emissions from off-road

equipment digging, moving, or transferring material; fugitive dust emissions from sand conveyance and processing equipment; and exhaust and fugitive dust emissions from on-road vehicle travel.

4.2.2.1 Guideline for the Determination of Significance

Based on the County Guidelines (2007), operational impacts would be potentially significant if they exceed the quantitative screening-level thresholds for criteria pollutants as listed under Section 4.2.1.1.

4.2.2.2 Significance of Impacts Prior to Mitigation

Table 9, *Estimated Daily Operational Emissions*, presents the summary of operational emissions for the project for each phase of mining with implementation of the BMPs for fugitive dust control described in Section 1.3, including watering of exposed surfaces and unpaved roads twice per day and enforcing a 15-mph speed limit on all unpaved surfaces. Phase 2 and Phase 3 demolition activities are presumed to occur near end of the prior phase and concurrent with mining activities. Phase 1 construction activities are assumed to be completed prior to the start of mining and are not included in the maximum daily operational emissions estimates. The Phase 1, 2, and 3 operational activities include ongoing reclamation as mining is completed in each sub-area. As discussed in Section 3.2, due to the limited amount of equipment use and duration, it is anticipated that the pollutant emissions from the Phase 4 final reclamation activities would be substantially lower than the maximum daily and annual emissions analyzed for project Phases 1 through 3, and the Phase 4 emissions are not included in the analysis. Operational emission calculations and model outputs are provided in Appendices B and C.

Table 9
ESTIMATED DAILY OPERATIONAL EMISSIONS

Category	ROG*	NO_X*	CO*	SO_X*	PM_{10}*	$PM_{2.5}$*
Phase 1						
Off-Road Equipment Exhaust	2.0	18.0	12.7	<0.1	0.7	0.6
Mining and Processing Dust	-	-	-	-	80.3	15.3
On-Road Mobile Emissions	0.5	19.9	6.9	<0.1	2.9	0.9
Phase 2 Demolition	1.2	11.1	10.3	<0.0	0.7	0.5
Phase 1 Total Daily Maximum Emissions	**3.7**	**49.0**	**29.9**	**0.2**	**84.5**	**17.4**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***
Phase 2						
Off-Road Equipment Exhaust	2.0	18.0	12.7	<0.1	0.7	0.6
Mining and Processing Dust	-	-	-	-	80.3	15.3
On-Road Mobile Emissions	0.4	19.4	6.9	<0.1	2.9	0.9
Phase 3 Demolition	1.1	10.8	10.3	<0.0	1.2	0.6
Phase 2 Total Daily Maximum Emissions	**3.6**	**48.8**	**29.9**	**0.2**	**85.0**	**17.4**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Category	ROG*	NO_X*	CO*	SO_X*	PM_{10}*	$PM_{2.5}$*
Phase 3						
Off-Road Equipment Exhaust	2.0	18.0	12.7	<0.1	0.7	0.6
Mining and Processing Dust	-	-	-	-	80.3	15.3
On-Road Mobile Emissions	0.8	23.3	9.9	0.1	2.7	0.8
Phase 3 Total Daily Maximum Emissions	**2.8**	**41.3**	**22.6**	**0.2**	**83.6**	**16.7**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod and calculations using emission factors from CARB ORION Off-Road database and EPA AP-42 (CalEEMod output and calculation data is provided in Appendices B and C).
* Pollutant Emissions (pounds per day)
ROG = reactive organic gas; CO = carbon monoxide; NO_X = oxides of nitrogen; SO_X = oxides of sulfur;
PM_{10} = particulate matter of 10 microns or less in diameter; $PM_{2.5}$ = particulate matter of 2.5 microns or less in diameter

As shown in Table 9, project emissions of criteria pollutants and ozone precursors during operation of all mining phases would not exceed the daily screening thresholds. As discussed in Section 3.2.2, because the total equipment used for final reclamation activities (Phase 4; a dozer, grader, hydroseed truck, and small tractor) would be a small fraction of equipment used for operations (all of the equipment listed in Table 7), the intensity (and pollutant emissions) of these final reclamation activities would be substantially lower than the maximum daily and annual emissions analyzed for project operations and shown in Table 9. Therefore, the project's operational emissions would not result in a violation of the NAAQS or CAAQS and the impact would be less than significant.

4.2.2.3 Mitigation Measures and Design Considerations

The standard BMPs for fugitive dust control described in Section 1.3 would be required for mining operations to ensure compliance with SDAPCD Rule 55 and were accounted for in calculating operational emissions, as described in Section 3.2.2.

4.2.2.4 Conclusions

The project's operational emissions would not exceed the County screening threshold levels. Therefore, operation of the project would not result in a violation of the NAAQS or CAAQS and the impact would be less than significant.

4.3 CUMULATIVELY CONSIDERABLE NET INCREASE OF CRITERIA POLLUTANTS

4.3.1 Construction Impacts

Based on the County Guidelines (2007), a project would result in a cumulatively significant impact if the project results in a significant contribution to the cumulative increase in pollutants for which the SDAB is listed as nonattainment for the CAAQS and NAAQS. As discussed in Section 2.0, the SDAB is designated as a nonattainment area for the NAAQS for ozone and the CAAQS for ozone, PM_{10}, and $PM_{2.5}$.

Cumulatively considerable net increases during the construction phase would typically happen if two or more projects near each other are simultaneously under construction. A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_X, or VOCs during construction would also have a significant cumulatively considerable net increase. In the event direct impacts from a

proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Section 3.0.

4.3.1.1 Guidelines for the Determination of Significance

The following thresholds are used for the assessment of cumulative construction impacts:

Would the project result in emissions that exceed 250 lbs per day of NO_X or 75 lbs per day of VOCs?

Would the project result in emissions of $PM_{2.5}$ that exceed 55 lbs per day?

Would the project result in emissions of PM_{10} that exceed 100 lbs per day and increase the ambient PM_{10} concentration by 5.0 micrograms per cubic meter ($\mu g/m^3$) or greater at the maximum exposed individual?

4.3.1.2 Significance of Impacts Prior to Mitigation

Short-term emissions associated with construction may result in localized impacts to receptors located close to the project construction area. As shown in Section 4.2.1, project construction emissions would be below significance levels. Short-term cumulative impacts related to air quality could occur if construction of the project and other projects in the surrounding area were to occur simultaneously. In particular, with respect to local impacts, the consideration of cumulative construction particulate matter (PM_{10} and $PM_{2.5}$) impacts is limited to cases when projects constructed simultaneously are within a few hundred yards of each other because of (1) the combination of the short range (distance) of particulate dispersion (especially when compared to gaseous pollutants) and (2) the SDAPCD's required dust control measures which further limit particulate dispersion from a project site. The LMA identified projects in the traffic study area that would add traffic to the local circulation system in the near future (LLG 2021a). The closest large project on this list is the Ivanhoe Ranch (119 single-family residential units) on the southeast side of the project site. The construction schedule of Ivanhoe Ranch was not known at the time of this analysis. The closest lot in the Ivanhoe Ranch development is approximately 1,400 feet (0.25 mile) from the construction for the project's processing area. According to the Desert Research Institute (DRI), with implementation of standard dust control measures like those required by SDAPCD Rule 55, particulate concentrations are reduced by more than 99 percent at a distance of 400 feet (DRI 1996). As such, even if construction of the Ivanhoe Ranch development were to occur concurrently with the project, because of the distance between the projects, the project's construction activities are not anticipated to result in a cumulatively significant impact on air quality.

Section 4.2 concludes that the project's construction emissions would be well below the screening thresholds and impacts would be less than significant; and as discussed in Section 4.4 below, the project would not have significant impacts to sensitive receptors during construction. Therefore, construction of the project would not result in a cumulatively considerable contribution to a significant air quality impact pertaining to emissions of criteria air pollutants and ozone precursors.

4.3.1.3 Mitigation Measures and Design Considerations

Control measures for construction are discussed in Section 1.3. As discussed in that section, implementation of construction BMPs controlling fugitive dust emissions would minimize the project's

contribution to cumulative air quality impacts from construction activities. Cumulative projects would also need to comply with SDAPCD Rules for dust control and construction equipment. No mitigation measures would be required.

4.3.1.4 Conclusions

Cumulative impacts associated with project construction emissions of criteria pollutants and ozone precursors would be less than cumulatively considerable.

4.3.2 Operational Impacts

As discussed above, based on the County Guidelines (2007), a project would result in a cumulatively significant impact if the project results in a significant contribution to the cumulative increase in criteria pollutants and ozone precursors. In accordance with the guidelines, a project that does not conform to the Attainment Plan and/or has a significant direct impact on air quality with regard to operational emissions of nonattainment pollutants would also have a cumulatively considerable net increase. Also, projects that cause road intersections to operate at or below a level of service (LOS) E and create a CO hotspot create a cumulatively considerable net increase of CO.

4.3.2.1 Guidelines for the Determination of Significance

The following thresholds are used for the assessment of cumulatively considerable net increases in air pollutants during the operational phase:

Would the project conform to the SDAPCD's Attainment Plan and/or have a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_X, and/or VOCs, which would also have a significant cumulatively considerable net increase in these emissions?

Would the project cause road intersections or roadway segments to operate at or below LOS E and create a CO hotspot that would result in a cumulatively considerable net increase of CO?

4.3.2.2 Significance of Impacts Prior to Mitigation

As described in Sections 4.1 and 4.2, the project would be consistent with the Attainment Plan and would not exceed the County's screening-level thresholds. As discussed in Section 4.4.2, the project would not create a CO hotspot that would result in a cumulatively considerable net increase of CO. Therefore, operation of the project would not create a cumulatively considerable net increase in criteria pollutants associated with operation and the impacts would be less than significant.

4.3.2.3 Mitigation Measures and Design Considerations

The project would be required to comply with SDAPCD Rule 55 and incorporate the BMPs described in Section 1.3. No further mitigation would be required.

4.3.2.4 Conclusions

Cumulative impacts associated with project operational emissions of criteria pollutants and ozone precursors would be less than cumulatively considerable.

4.4 IMPACTS TO SENSITIVE RECEPTORS

4.4.1 Guidelines for the Determination of Significance

Would the project expose sensitive receptors to substantial pollutant concentrations?

The following guidelines of significance are used by the County to address the above question:

Would the project place sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors?

Would project implementation result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 10 million with Toxics-Best Available Control Technology or a health hazard index greater than 1 and, thus, be deemed as having a potentially significant impact?

4.4.2 Significance of Impacts Prior to Mitigation

4.4.2.1 CO Concentrations (CO Hotspot Analysis)

CO hotspots are most likely to occur at heavily congested intersections where idling vehicles increase localized CO concentrations. The County guidelines call for a CO hotspot analysis if the project would:

- Place sensitive receptors within 500 feet of a signalized intersection with a LOS of E or F, with peak-hour trips exceeding 3,000 vehicles; or

- Cause intersections to operate at LOS E or F, with peak-hour trips exceeding 3,000 vehicles.

The project would generate approximately 212 average daily trips (ADT) during operation, or 476 ADT including a 2.5 passenger car equivalent factor for trucks (LLG 2021a). According to the LMA, one signalized intersection in the study area operates with a LOS of E or F under existing conditions. The two-way stop-controlled intersection of Willow Glen Drive and Muirfield Drive would continue to operate at LOS E during the PM peak hour and degrade from LOS E to LOS F during the AM peak hour under the existing plus project plus cumulative conditions with a peak hour traffic volume of 2,032 vehicles. The LMA concluded that this would be an acceptable LOS, and no mitigation would be required. Because the only intersection operating at LOS E or F with a significant increased delay resulting from project and cumulative traffic is not signalized and would have a peak hour traffic less than 3,000 vehicles, project implementation would not result in the formation of CO hotspots. Impacts to sensitive receptors resulting from CO hotspots would be less than significant.

4.4.2.2 Construction-Related Health Risk

Project construction would generate DPM emissions from the use of off-road diesel equipment required for demolition, site preparation, and grading and other construction activities. DPM is the primary toxic air contaminant that would be emitted during construction. Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The amount to which the receptors could be exposed, which is a function of concentration and duration of exposure, is the primary factor used to determine health risk. The generation of TAC emissions during construction would be variable and sporadic due to the nature of construction activity. The longest construction period would be prior to Phase 1 for preparation and grading the processing

pad and settling ponds. This construction utilizing heavy diesel equipment is anticipated to last a maximum of 50 working days and would require up to six pieces of heavy equipment working at one time (see Table 6). The closest sensitive receptors to this activity would be 650 feet west (upwind) of the settling ponds. Project construction activities would also generate fugitive dust emissions (PM_{10} and $PM_{2.5}$). Because the native sand could contain TACs, construction fugitive dust could also include some respirable TACs. During construction implementation of the BMPs for the control of fugitive dust, described in Section 1.3, would substantially reduce emissions of fugitive dust related TACs. In addition, as described above, the longest period of construction is anticipated to last 50 working days and would be located 650 feet from the nearest sensitive receptor. DPM disperses rapidly with distance, and concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005). The maximum daily on-site emissions of exhaust PM_{10} (a proxy for DPM) during grading are anticipated to be 0.6 pounds per day (see Appendix C for CalEEMod outputs). This can be compared to, and is less than, the operational off-road equipment exhaust of 0.7 pounds per day of PM_{10}. As such, it can be concluded that construction period health risks would be less than those analyzed below for operations. Therefore, due to the short duration and minimal amount of emissions and distance to the nearest receptors, project-related TAC emission impacts during construction would not expose sensitive receptors including residences, schools, hospitals, resident care facilities, or day-care centers, to substantial pollutant concentrations and the impact would be less than significant.

4.4.2.3 Operation-Related Health Risk

As discussed in Section 2.1, the closest existing sensitive receptors to the project site are the ADEONA Healthcare facility and single-family homes adjacent to the existing and former golf courses south and east of the project site. In addition, there are single- and multi-family homes along the primary routes for aggregate delivery trucks entering and exiting the project site, including along Willow Glen Drive and Jamacha Road. The closest school is the Jamacha Elementary School approximately 1,280 feet (0.24 mile) south of the Phase 2 mining area. The sensitive receptor locations are shown in Figure 4.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015b). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

Operation of the project would result in the generation of DPM emissions and fugitive dust trace TACs from the use of off-road diesel equipment, on-road haul trucks, and sand processing operations. Fugitive dust trace TACs analyzed include arsenic, beryllium, cadmium, chromium (hexavalent and non-hexavalent), copper, manganese, mercury, nickel, selenium, and crystalline silica. The project would implement T-BACT, specifically, the implementation of BMPs (as described in Section 1.3) and the use of water for dust suppression in sand processing, and the implementation of DPM emissions reduction technologies in accordance with USEPA and CARB regulations and implementation schedules. As described in Section 3.2.3, above, air dispersion modeling of TAC emissions was completed using Lakes AERMOD View and risks were evaluated using the CARB Hotspots Analysis and Reporting Program ADMRT program. The resulting health risks for the maximum exposed non-project worker and the maximum exposed individual residents near the project site and/or near the haul route are summarized in Table 10, *Health Risks from TAC Emissions*. Model output files and cancer risk isopleth plots are included in Appendix D.

Table 10
HEALTH RISKS FROM TAC EMISSIONS

Maximum Exposed Individual	Risk Type	Maximum Risk	SDAPCD Threshold	Exceed Threshold?
Phase 1				
Resident	Incremental Cancer Risk	2.3 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.07	1	No
Non-Project Worker	Incremental Cancer Risk	0.02 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No
Phase 2				
Resident	Incremental Cancer Risk	2.9 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.09	1	No
Non-Project Worker	Incremental Cancer Risk	<0.01 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No
Phase 3				
Resident	Incremental Cancer Risk	2.7 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.07	1	No
Non-Project Worker	Incremental Cancer Risk	<0.01 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No

Source: Lakes AERMOD View version 9.6.1 and CARB ADMRT version 18159, Model output files and cancer risk isopleth plots are included in Appendix D.
TAC = toxic air contaminant; SDAPCD = San Diego Air Pollution Control District

As discussed in Section 3.2, above, risks were conservatively evaluated for each scenario (Phase 1, Phase 2, and Phase 3) assuming a full 10 years of exposure (the anticipated duration of mining activities for the entire project), even though sand extraction for each phase would only last 3 to 4 years. All receptors were included in each scenario. As shown in Table 10, the MEIR (i.e., the individual resident with the highest estimated increased cancer risk and/or health hazard index; located at a rural residence off of Ivanhoe Ranch Road southeast of the project site) would have incremental increased cancer risk of 2.9 in 1 million, an acute health hazard index of 0.05, and a chronic health hazard index of 0.07 during Phase 2. The increased incremental cancer risk isopleths and the location of the MEIR are shown in Figure 5, *Increased Residential Cancer Risk.* The maximum exposed individual worker (located on Willow Glen Drive just east of the Jamacha Road intersection) would have an incremental increased cancer risk of 0.02 in 1 million, an acute health hazard index of less than 0.01, and a chronic health hazard index of less than 0.01 during Phase 1. The thresholds for increased incremental cancer risk, acute health risk, and chronic health risk would not be exceeded for the maximum exposed individual non-project worker or resident.

Residential cancer burden was estimated using the highest risk for an MEIR from all phases (which would occur in Phase 2), as described in Section 3.2.3. Using the 1 in 1 million cancer risk isopleth for a 70-year exposure overlaid on an aerial image, the number of residences within or touching the isopleth is 23 single-family homes. Assuming up to 10 residents per residence, the total exposed population

would be 230. The cancer burden would be 3.4 x 10^{-6} times 230, or 0.0008, below the SCAQMD threshold of 0.5.

A screening analysis was completed for sub-chronic lead exposure, as described in Section 3.2.3. Using conservative assumptions (a year of calculated lead emissions emitted in 30 days and emissions steady 24-hours per day), the maximum on-site lead concentration would be 0.014 µg/m^3 and the highest concentration at any off-site sensitive receptor would be 0.003 µg/m^3. These lead concentration levels would be well below the high exposure scenario approval level of 0.12 µg/m^3 (CARB 2001). No further refinement of the lead concentration modeling/analysis is required.

Therefore, the impact on community health resulting from project operational emissions of TACs would be less than significant.

4.4.3 Mitigation Measures and Design Considerations

Impacts are less than significant; therefore, no mitigation measures are required.

4.4.4 Conclusions

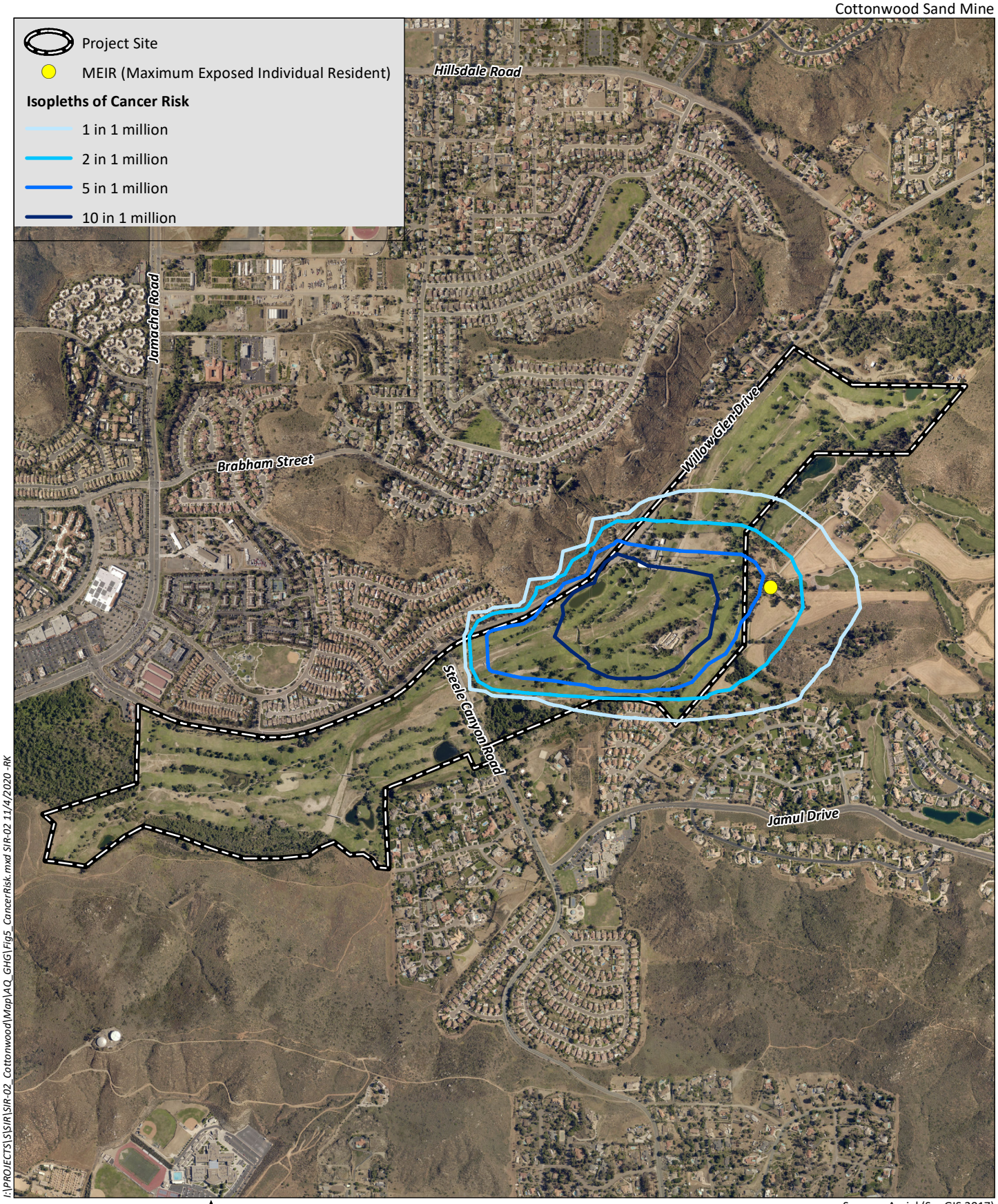
Implementation of the project would not result in the formation of CO hotspots due to project-related traffic. Due to the short-term and intermittent nature of construction activity, and due to the distance to the closest sensitive reports from construction areas, impact from construction-period TACs would be less than significant. Operation of the project would not result in increased incremental cancer risks or health hazard indexed in excess of County thresholds with T-BACT implemented. The project would not expose sensitive receptors to substantial concentrations of pollutants and impacts would be less than significant.

4.5 ODOR IMPACTS

4.5.1 Guidelines for the Determination of Significance

Based on the County Guidelines (2007), a project would have a significant impact if it would generate objectionable odors or place sensitive receptors next to existing objectionable odors that would affect a considerable number of persons or the public.

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 541700, prohibit the emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. In addition, the County's Zoning Ordinance, Section 6318, states: "all commercial and industrial uses shall be so operated as to not emit matter causing unpleasant odors which are perceptible by the average person at or beyond any lot line of the lot containing said uses." Projects required to obtain permits from SDAPCD, typically industrial and some commercial projects, are evaluated by SDAPCD staff for potential odor nuisance and conditions may be applied (or control equipment required), where necessary, to prevent occurrence of public nuisance.



Source: Aerial (SanGIS 2017)

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Increased Residential Cancer Risk

Figure 5

4.5.2 Significance of Impacts Prior to Mitigation

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations (SCAQMD 1993). The project, involving a sand mining and processing facility, would not include any of these uses. Project construction and operation could result in minor amounts of odors associated with unburned hydrocarbons in diesel heavy equipment exhaust. The project sand processing and truck loading area would be located approximately 650 feet from the nearest residence. Sand extraction activities could require up to three pieces of equipment, but the equipment would be located at least 100 feet from residences in accordance with the Project's proposed property line setbacks. Most mining activity would occur at distances much greater than 100 feet from residences based on the large area of the mining site. The odor of diesel exhaust from the mining equipment may be objectionable to some; however, emissions would be intermittent based on the mobile nature of mining activities and the Project's proposed phasing and would disperse rapidly with distance (CARB 2005); therefore, the Project's mining activities would not affect a substantial number of people. As such, impacts associated with odors during construction and operation of the project would be less than significant.

4.5.3 Mitigation Measures and Design Considerations

Because the project would not generate objectionable odors or place sensitive receptors near existing odor sources that would affect a considerable number of persons or the public, no mitigation measures or additional design considerations are required.

4.5.4 Conclusions

Due to the nature of the development, there are no significant odorous air emissions anticipated from construction or operation; therefore, impacts would be less than significant.

5.0 SUMMARY OF RECOMMENDED PROJECT DESIGN FEATURES, IMPACTS, AND MITIGATION

5.1 PROJECT DESIGN FEATURES

As described in Section 1.3, the project would incorporate measures to minimize fugitive dust emissions, including watering twice per day during grading and stabilization of storage piles. The project would comply with Rule 55, which requires that no visible dust is emitted beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period. The project would incorporate measures to minimize the track-out/carry-out of visible roadway dust per Rule 55 and fugitive dust BMPs including watering exposed surfaces a minimum of twice per day and enforcing a 15-mph speed limit on unpaved surfaces.

5.2 PROJECT IMPACTS

As described in Section 4.1, the project would be consistent with the Attainment Plan.

The control measures listed above constitute BMPs for dust control. With the implementation of construction BMPs, air pollutant emissions impacts associated with project construction and operation would be less than significant.

The project would not result in cumulatively considerable emissions of nonattainment air pollutants that would exceed the screening level thresholds.

Impacts associated with exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

Impacts from odors generated from construction and operation of the project would be less than significant.

5.3 PROJECT MITIGATION

Because the project would not result in significant impacts, no mitigation is required.

6.0 REFERENCES

California Air Resources Board (CARB). 2021a. Top 4 Measurements and Days Above the Standard. Available at: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed November 2021

2021b. Emissions inventory for on-road and off-road mobile sources in California. Available at: https://arb.ca.gov/emfac/emissions-inventory/.

2018. Overview: Diesel Exhaust and Health. Available at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

2017. 2017 Off-Road Diesel Emissions Factors. Available At: https://www.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx.

2016. Ambient Air Quality Standards. May 4. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

2015a. Meteorological Files. Available at: https://www.arb.ca.gov/toxics/harp/metfiles2.htm.

2015b. Risk Management Guidance for Stationary Sources of Air Toxics. Available at: https://www.arb.ca.gov/toxics/rma/rmgssat.pdf

2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: https://www.arb.ca.gov/ch/handbook.pdf.

2001. Risk Management Guidelines for New, Modified, and Existing Sources of Lead. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/lead/leadmain.pdf?_ga=2.265225991.966042450.1636050298-329572025.1576257494.

2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Available at: https://www.arb.ca.gov/diesel/documents/rrpFinal.pdf.

California Pollution Control Officers Association (CAPCOA). 2021. User's Guide for CalEEMod Version 2020.4.0. Available at: http://www.caleemod.com/.

2018. Health Effects. Available at: http://www.capcoa.org/health-effects/. Accessed January 2019.

2009. Health Risk Assessments for Proposed Land Use Projects. Available at: http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

Desert Research Institute (DRI). 1996. Final Effectiveness Demonstration of Fugitive Dust Control Methods for Public Unpaved Roads and Unpaved Shoulders on Paved Roads, DRI Document No. 685-5200.1F1, prepared for CARB CRPAQS. December 31.

EnviroMINE, Inc. 2018. Project Description for the Cottonwood Sand Mining Project. November.

Linscott, Law & Greenspan, Engineers (LLG). 2021a. Local Mobility Analysis Cottonwood Sand Mine. September.

2021b. Transportation Impact Analysis Cottonwood Sand Mine. September.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.

San Diego Association of Governments (SANDAG). 2011. San Diego Region Aggregate Supply Study. January.

San Diego, County of. 2011. General Plan. Land Use and Environmental Group, Department of Planning and Land Use, Department of Public Works. August.

2007. Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality. Land Use and Environmental Group, Department of Planning and Land Use, Department of Public Works. March 19.

San Diego County Air Pollution Control District (SDAPCD). 2020. 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County. October. Available at: https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/Att%20A%20(Attainment%20Plan)_ws.pdf.

2019a. Rule 20.2 – New source Review Non-Major Stationary Sources. Adopted June 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20.2.pdf.

2019b. Rule 20.2 – New source Review Major Stationary Sources and PSD Stationary Sources. Adopted June 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20.3.pdf.

2017. Attainment Status. Available at: http://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning/attainment-status.html. Accessed December 2018.

2005. Rule 55 – Fugitive Dust Control. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.

1999. Air Toxics “Hot Spots” and Emission Inventory Program – Mineral Products Industry. Available at: https://www.sandiegocounty.gov/content/sdc/apcd/en/engineering/Permits/Engineering_Emissions_Inventory/Mineral_Products_Calc.html.

South Coast Air Quality Management District (SCAQMD). 2015. SCAQMD Air Quality Significance Thresholds. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

1993. CEQA Air Quality Handbook. April.

U.S. Environmental Protection Agency (USEPA). 2006a. AP-42, Fifth Edition Compilation of Air Pollutant Emissions Factors, Chapter 13.2.5 Industrial Wind Erosion.

2006b. AP-42, Fifth Edition Compilation of Air Pollutant Emissions Factors, Chapter 13.2.2 Unpaved Roads.

U.S. Occupational Safety and Health Administration (USOSHA). 2018. Safety and Health Topics/Silica. https://www.osha.gov/dsg/topics/silicacrystalline/.

Western Regional Air Partnership (WRAP). 2006. WRAP Fugitive Dust Handbook. September 7. Available at: https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf.

Western Regional Climate Center (WRCC). 2019. Western U.S. Climate Summary – La Mesa, California (044735). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4735. Accessed January 2019.

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Appendix A

Fugitive Dust Control Plan

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Cottonwood Sand Mine Project

Fugitive Dust Control Plan

November 2021 | 02975.00002.002

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Fugitive Dust Control Plan

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ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology
CARB	California Air Resources Board
County	County of San Diego
CY	cubic yard
mph	miles per hour
NESHAP	National Emission Standard for Hazardous Air Pollutants
NO_X	oxides of nitrogen
NSPS	New Source Performance Standard
OEHHA	Office of Environmental Health Hazard Assessment
operator	project applicant or the applicant's designated mine operations manager
PM_{10}	coarse particulate matter (particulate matter with an aerodynamic diameter of 10 microns or less)
$PM_{2.5}$	fine particulate matter (particulate matter with an aerodynamic diameter of 2.5 microns or less)
Project	Cottonwood Sand Mine Project
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
Site Coordinator	Fugitive Dust Control Plan Project Site Coordinator
SJVAPCD	San Juaquin Valley Air Pollution Control District
SO_X	oxides of sulfur
SR	State Route
TACs	toxic air contaminants
T-BACT	Toxics Best Available Control Technology
USDA	U.S. Department of Agriculture
VOC	volatile organic compound

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1.0 INTRODUCTION

This Fugitive Dust Control Plan (Plan) for the Cottonwood Sand Mine Project (project) summarizes the responsible parties, project description and potential dust sources, applicable local rules and regulations, fugitive dust control measures, and Plan implementation for the project. The purpose of the Plan is to implement the fugitive dust control project design features, reduce potential fugitive dust impacts resulting from construction and operation of the project, and ensure compliance with San Diego County Air Pollution Control District (SDAPCD) and San Diego County (County) rules and regulations.

2.0 RESPONSIBLE PARTIES

2.1 PROJECT SITE COORDINATOR

The project applicant shall designate a Fugitive Dust Control Plan Project Site Coordinator (Site Coordinator) and Assistant Site Coordinator. The Site Coordinator and Assistant Site Coordinator shall be California Air Resources Board (CARB) certified for Visual Emissions Evaluation and trained in all aspects of the project design features/dust control measures, Plan implementation and recordkeeping requirements. The Site Coordinator will be responsible for implementing the fugitive dust control measures as specified in this Plan. The Site Coordinator will have authority and responsibility for overseeing implementation of the measures identified in Section 5. In the event the Site Coordinator is not on site, the Assistant Site Coordinator will serve in a similar capacity. Prior to site preparation and extraction activities and after issuance of SDAPCD or County permit(s), the contact information (provided in Section 2.2) for the designated Site Coordinator and Assistant Site Coordinator shall be provided to both the SDAPCD and the County. The Site Coordinator has the following responsibilities:

- Read and understand the Plan and have a copy available at the project site.
- Implement the Plan and ensure that all employees and contractors know their fugitive dust control responsibilities.
- Use alternative fugitive dust control measures when specified fugitive dust control measures are ineffective.
- Monitor the worksite for compliance with the Plan.
- Maintain a checklist monitoring the implementation and effectiveness of the fugitive dust control measures. Inspections shall be conducted twice a month, at minimum. A self-inspection checklist will be used for each source of fugitive dust emissions identified in Section 3.3 to help incorporate routine tasks of fugitive dust control into daily schedules. The checklist will serve as a job reminder on a daily basis and as record of efforts to keep fugitive dust to a minimum. An example of a checklist is included as Attachment A.
- The Site Coordinator shall be available to respond to complaints or reports on operating days to ensure the project operation shall not cause or allow any emissions of fugitive dust from any transport, handling, or storage activity for which such dust remains visible in the atmosphere beyond the property line of the emission source (this condition does not apply when the wind speed instantaneously exceeds 25 miles per hour (mph) or when the wind speed averages for

15 minutes is greater than 15 mph). The Site Coordinator shall maintain a log of visible emission observations (which includes images taken of dust being generated on the property) and will make that log available to SDAPCD inspectors upon request. CARB's Visible Emission Observation Form is included as Attachment B. The Site Coordinator shall also organize and conduct an employee and contractor awareness training for all new employees and contractors that will include all applicable fugitive dust control measures and the importance of strict compliance. A sign-in sheet will be completed for all participants and hard hat decals will be provided to all individuals that have completed the training. An example of an employee and contractor awareness training sign-in sheet is included as Attachment C.

- All recordkeeping will be kept on site for a minimum period of 5 years.

2.2 PROJECT CONTACT LIST

The contact information for the individuals responsible for the preparation and implementation of the Plan is provided in Tables 1, 2, and 3. The responsibilities of the project site coordinator are detailed in Section 2.1, above.

Table 1
FUGITIVE DUST CONTROL PLAN PROJECT CONTACT

Name	
Title	
Address	
Phone	
Mobile	
Fax	
Email	

Table 2
FUGITIVE DUST CONTROL PLAN PROJECT SITE COORDINATOR

Name	
Title	
Address	
Phone	
Mobile	
Fax	
Email	

Table 3
FUGITIVE DUST CONTROL PLAN ASSISTANT PROJECT SITE COORDINATOR

Name	
Title	
Address	
Phone	
Mobile	
Fax	
Email	

3.0 PROPOSED PROJECT

3.1 PROJECT LOCATION

The project is located at 3121 Willow Glen Drive in the unincorporated communities of Rancho San Diego and Jamul, southeast of the City of El Cajon in eastern San Diego County. The site is north of State Route (SR) 94 and east of SR 54. More specifically, the project site is located on the southeast side of Willow Glen Drive, north of Jamul Drive, east of Jamacha Road, and west of Hillsdale Road. Steele Canyon Road bisects the project site from north to south, near the center of the project (see Figure 1, *Regional Location* and Figure 2, *Aerial Vicinity*). Principal site access is from Willow Glen Drive, with regional access from SR 54/Jamacha Boulevard and SR 94/Campo Road.

3.2 PROJECT OVERVIEW

The project would extract, process, and transport sand using conventional earth moving and processing equipment. Approximately 4.3 million cubic yards (CY; 6.40 million tons) of material are proposed to be extracted. Mining and extraction activities are expected to produce approximately 3.8 million CY (5.7 million tons) of sand and gravel for market use. Extraction operations would be limited to a maximum production of 380,000 CY (570,000 tons) of construction grade aggregate (sand) per calendar year, with a 10 percent waste factor from the total amount extracted that includes wash fines and materials undesirable for processing.

The project would be developed in three continuous mining phases, with subphases of less than 30 acres per phase, and a fourth phase for cleanup, equipment removal, and final reclamation (see Figure 3, *Mining Phases*). Prior to the initiation of Phase 1, pre-mining activities such as the restriping of Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway, improvements to the access point from Willow Glen Drive to the Phase 1 excavation area, and installation of screening landscaping would be implemented. Phase 1 would begin with the placement of the processing plant west of the existing clubhouse adjacent Willow Glen Drive. The plant site would consist of aggregate processing and washing facilities, three settling ponds, loadout area, and support structures and buildings (e.g., scale, office kiosk, and office trailer). A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas. The conveyor line would be mobile to provide access within each phase and would be relocated as mining activity is concluded in each phase. The mobile conveyor is proposed to minimize the use of on-site roads to transport excavated material between the plant and excavation areas.

Construction activities would include Willow Glen Drive improvements, demolition of structures, preparation of the processing area and settling ponds, construction of site access points, and installation of processing equipment. As noted above, an initial construction period would occur prior to Phase 1 mining to prepare the processing area and the Phase 1 extraction area. Subsequent construction and demolition activities for Phase 2 and Phase 3 mining would occur concurrently with sand mining and processing. The fugitive dust control measures described in this plan would apply to both construction and operation of the project.

Areas disturbed by resource extraction would be progressively reclaimed in an ongoing process that commences when mining operations have ceased within a given subphase area and continues until all mining-related disturbance is reclaimed and all equipment involved in these operations has been removed. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil (as applicable), installation of irrigation lines, revegetation of the channel and slopes using appropriate native species, weed control, and monitoring. Upon completion of the extraction activities, the entire site would be reclaimed in accordance with the mining and reclamation plan.

3.3 POTENTIAL DUST SOURCES

The following potential fugitive dust sources may occur at the project area:

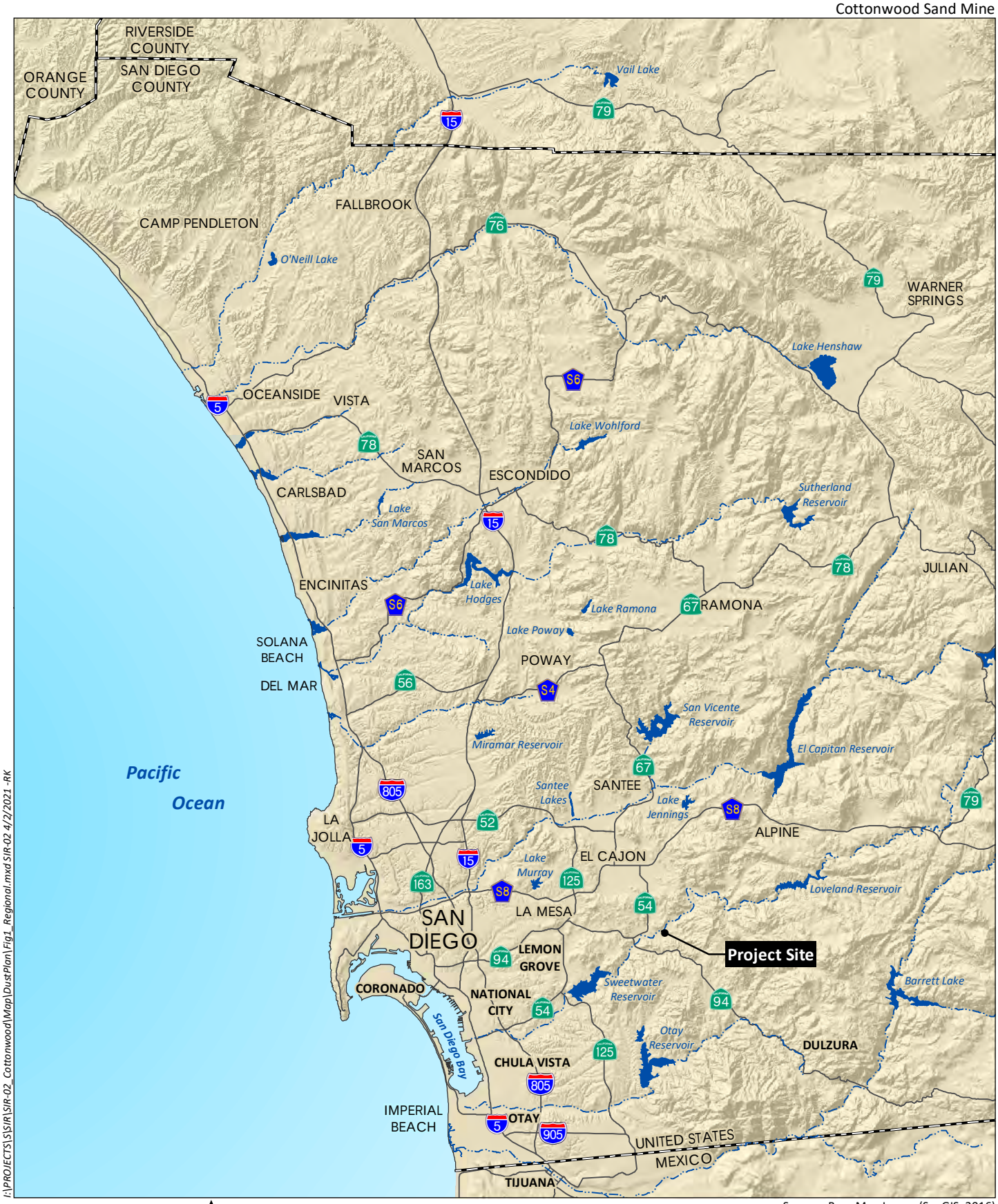
- Demolition of existing structures on the project site.
- Site grading and other earth-moving activities.
- Vehicles and equipment driving on paved roads (both on site and off site).
- Vehicles and equipment driving on unpaved roads.
- Aggregate and sand loading and unloading operations to/from conveyors, haul trucks, storage piles, and the aggregate processing plant.
- Aggregate processing plant operation.
- Wind erosion of areas disturbed from operation.
- Significant wind action on unprotected storage piles and areas.

3.4 WATER SOURCES

Operation of the project would require approximately 140 acre-feet of water per year for aggregate processing, dust suppression, and irrigation (if needed). Water would be sourced from eight existing groundwater wells on the project site.

3.5 SENSITIVE RECEPTORS

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with



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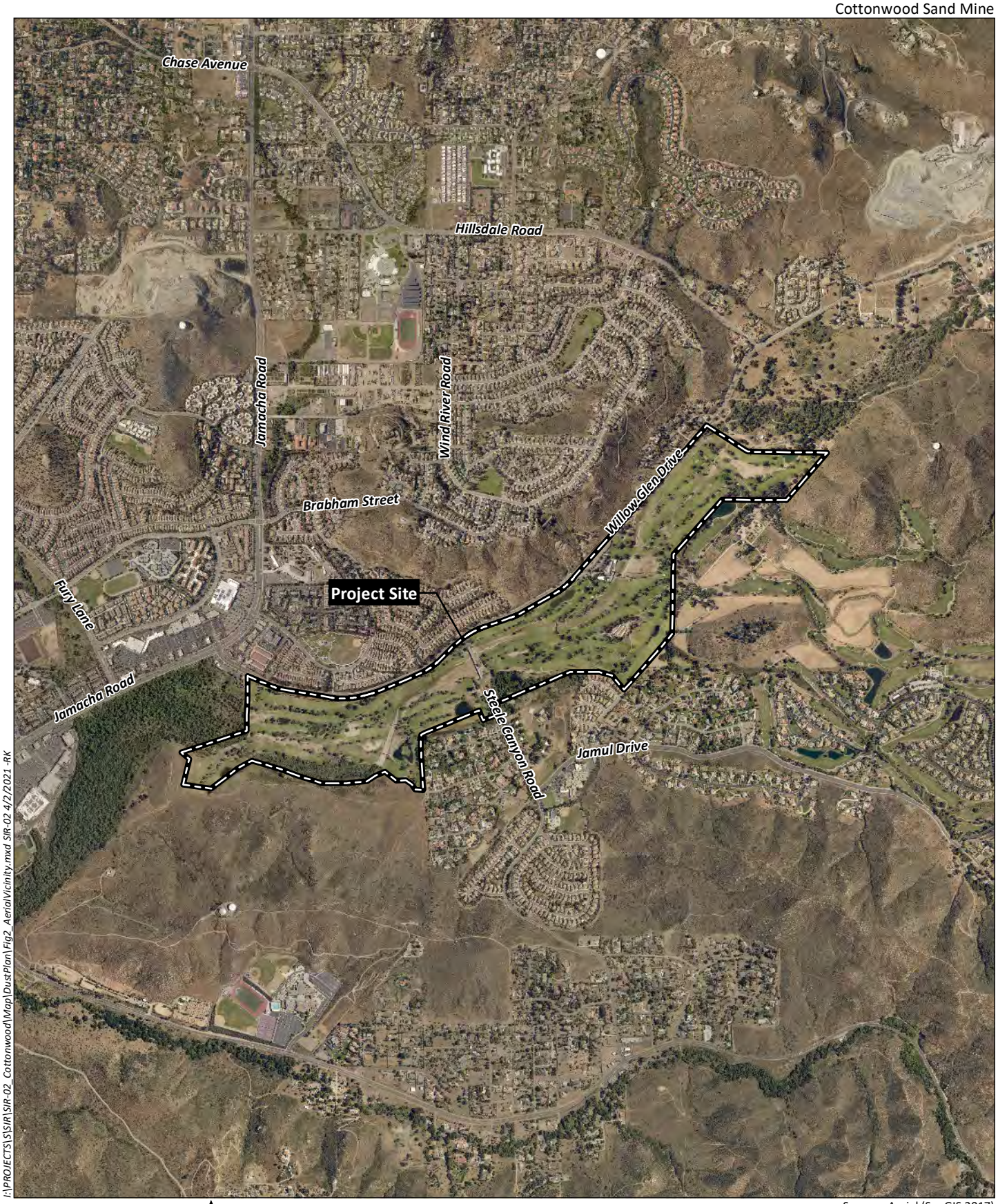
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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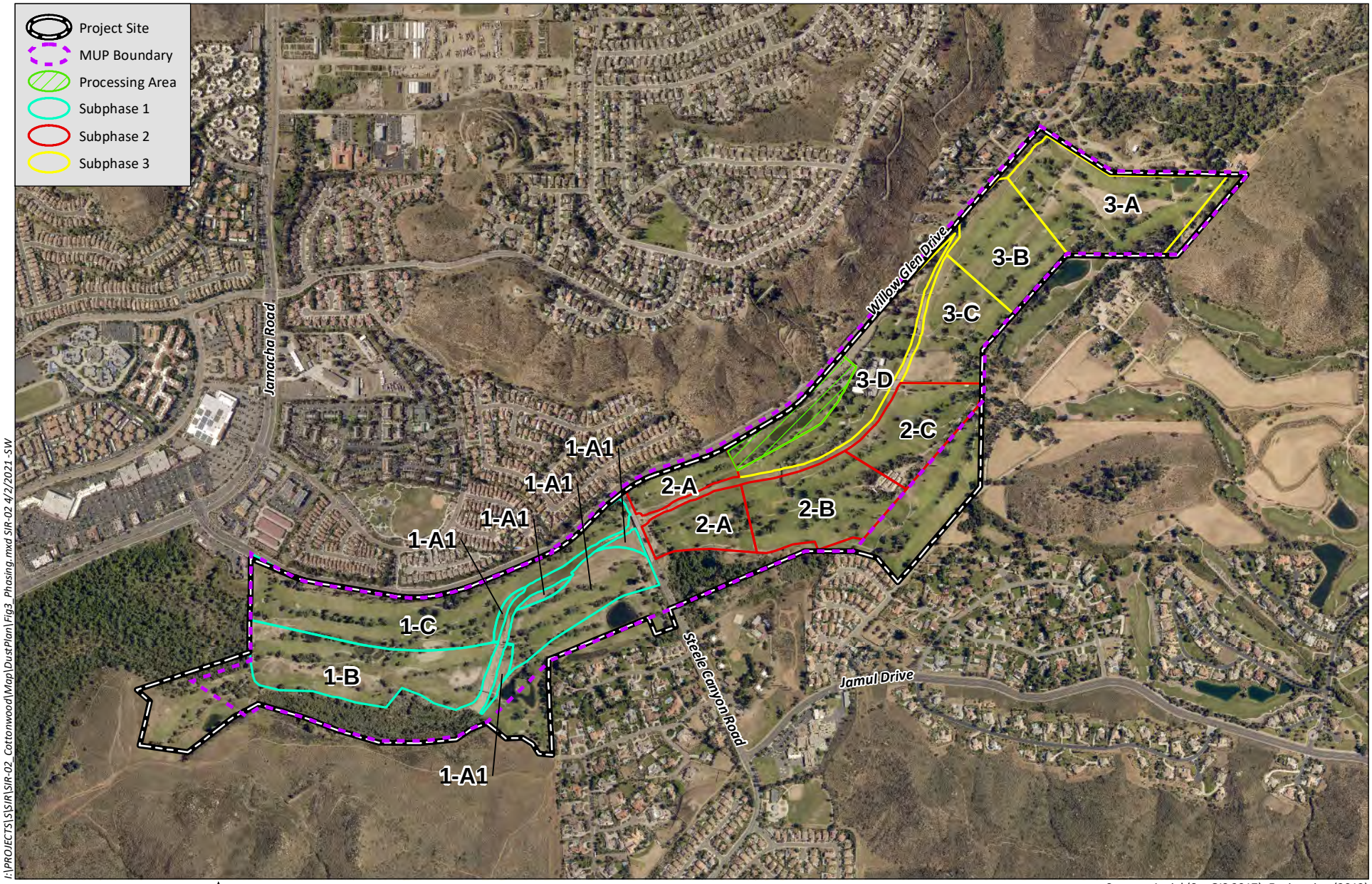
Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Aerial Vicinity

Figure 2



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Source: Aerial (SanGIS 2017); Enviromine (2019)

HELIX Environmental Planning

Mining Phases

Figure 3

cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptors to the project site are the Adeona healthcare facility and single-family homes adjacent to the existing and former golf courses on the south and east sides of the project site. In addition, there are single- and multi-family homes along the primary routes for aggregate delivery trucks entering and exiting the project site, including along Willow Glen Drive and Jamacha Road. The closest school is the Jamacha Elementary School approximately 1,280 feet (0.24 mile) south of the project Phase 2 mining area. The sensitive receptor locations are shown in Figure 4, *Receptor Locations.*

4.0 APPLICABLE RULES AND REGULATIONS

Fugitive dust is particulate matter that is suspended in the air by activities such as aggregate excavation and processing operations; dust stirred up by vehicles traveling on unpaved roads; and windblown dust over disturbed and open lands. Project operation is expected to generate fugitive dust which may include trace amounts of minerals such as silica, aluminum, iron, arsenic, nickel, and lead. As such, the dust control measures identified herein will also address the potential exposure to soil constituents.

The San Diego Air Basin (SDAB) is designated as a nonattainment area for particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$) under the California Ambient Air Quality Standards and is designated as attainment under the National Ambient Air Quality Standards (SDAPCD 2017).

The Site Coordinator, employees, and contractors shall review the SDAPCD rules and County code to ensure project compliance. Applicable rules and regulations are summarized in Sections 4.1 and 4.2 and full text is provided as Attachment D to this Plan.

4.1 SAN DIEGO AIR POLLUTION CONTROL DISTRICT

4.1.1 Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources.

Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of volatile organic compounds (VOCs), oxides of nitrogen (NO_X), oxides of sulfur (SO_X), or (PM_{10}) to be equipped with best available control technology (BACT). For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2019a).

4.1.2 Regulation II: Permits; Rule 20.3: New Source Review Major Stationary Sources and PSD Stationary Sources

Requires new or modified stationary source units (that are major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_X, SO_X, or PM_{10} to be equipped with BACT. For those units

with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2019b).

4.1.3 Regulation IV: Prohibitions; Rule 50: Visible Emissions

Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period, or periods, aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

4.1.4 Regulation IV: Prohibitions; Rule 50.1: NSPS and NESHAPS Visible Emissions Requirements

Requires sources subject to the provisions of any federal New Source Performance Standard (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAPS) which has been delegated to the SDAPCD to, in addition to complying with Rule 50, comply with Regulation X or Regulation XI, respectively (SDAPCD 1976).

4.1.5 Regulation IV: Prohibitions; Rule 51: Nuisance

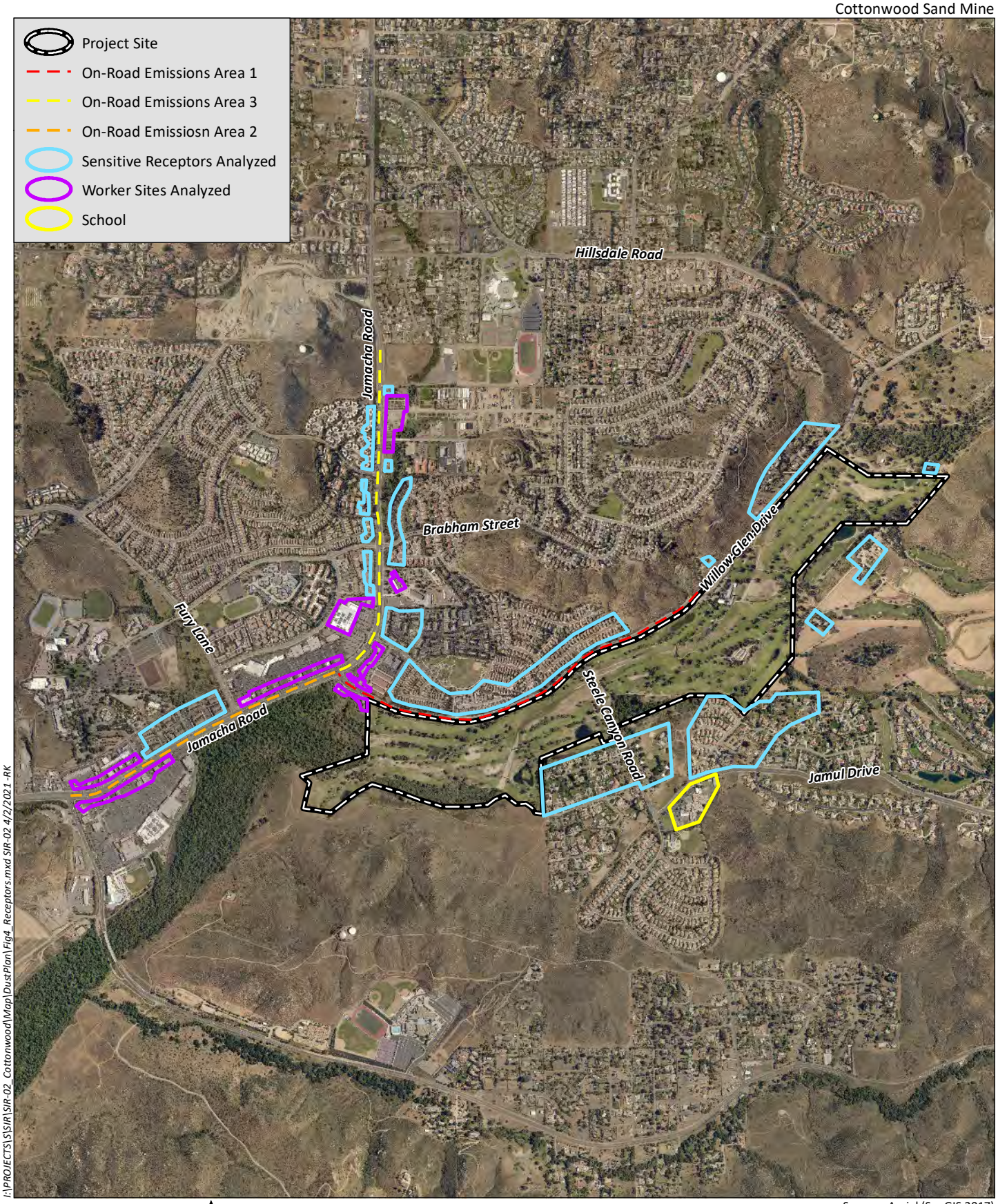
Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause, or tend to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).

4.1.6 Regulation IV: Prohibitions; Rule 55: Fugitive Dust

Prohibits discharge of visible dust emissions from construction or demolition activities into the atmosphere beyond the property line for a period, or periods, aggregating more than 3 minutes in any 60-minute period. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009).

4.1.7 Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review

Requires new or modified stationary source units with the potential to emit toxic air contaminants (TACs) above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2021).



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Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Receptor Locations

Figure 4

4.2 SAN DIEGO COUNTY

4.2.1 Grading Ordinance

The County Grading Ordinance requires that projects involving grading, clearing, and/or removal of natural vegetation obtain a grading permit, unless the project meets one or more of the exemptions listed in Section 87.202 of the Grading Ordinance. Per Section 87.202(g), the proposed project is exempt from obtaining a grading permit; however, as specified in Section 87.202, projects that are exempt from obtaining a grading permit remain subject to other requirements contained in the Grading Ordinance, including those related to dust control. The Ordinance requires clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to people or public or private property. Measures must be undertaken to achieve this result, including watering, application of surfactants, shrouding, control of vehicle speeds, paving access areas, or implementing other operational or technological measures to reduce dispersion of dust. These project design measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction (County 2012).

5.0 FUGITIVE DUST CONTROL MEASURES

To reduce the amount of fugitive dust generated from project construction, operation, and reclamation, the project applicant, or the applicant's designated mine operations manager (operator), shall implement primary available control measures when and where appropriate. The factors that affect dust control include ambient conditions (e.g., temperature, wind, humidity), processing plant production rate, size and weight of vehicles and equipment, vehicle speed, frequency and number of vehicles, haul road distance, soil characteristics (e.g., chemical composition, particle size distribution, organic compounds), and day-to-day aggressiveness of fugitive dust control measures (e.g., application of water or dust suppressants).

The fugitive dust control measures shall apply to construction, operation, and reclamation activities for of the project. The following fugitive dust control measures are anticipated to be adequate to meet all applicable dust control requirements under normal conditions. In the event that high wind or other atypical conditions affect the site, standby measures shall be implemented as appropriate.

5.1 GENERAL REQUIREMENTS

- The operator shall prepare, submit to the SDAPCD for approval, and implement the approved Fugitive Dust Control Plan for the project.

- The operator shall identify and provide a Fugitive Dust Control Site Coordinator before site preparation and extraction activities and after issuance of SDAPCD permit to respond to concerns of neighboring property owners about fugitive dust. The Site Coordinator's name and telephone shall be posted at the ingress and egress of the project site so that the public may call to report visible fugitive dust emissions beyond the property line. The operator shall log all such calls, take appropriate actions to minimize visible fugitive dust emissions, if necessary, and record the disposition or remedial action taken.

- The employee shall be a CARB certified Visual Emissions Evaluation monitor to monitor fugitive dust emissions from the project site. The Site Coordinator shall be available to respond to complaints or reports on operating days to ensure the project operation shall not cause or allow any emissions of fugitive dust from any transport, handling, or storage activity for which such dust remains visible in the atmosphere beyond the property line of the emission source (this condition does not apply when the wind speed instantaneously exceeds 25 mph or when the wind speed averages for 15 minutes is greater than 15 mph). The Site Coordinator shall maintain a log of visible emission observations (which includes images taken of dust being generated on the property) and will make that log available to SDAPCD inspectors upon request. CARB's Visible Emission Observation Form is included as Attachment B.

- The Site Coordinator shall maintain a checklist monitoring the implementation and effectiveness of the fugitive dust control measures. Inspections shall be conducted twice a month, at minimum. A self-inspection checklist will be used for each source of fugitive dust emissions identified in Section 3.3 to help incorporate routine tasks of fugitive dust control into daily schedules. The checklist will serve as a job reminder on a daily basis and as record of efforts to keep fugitive dust to a minimum. An example of a checklist is included as Attachment A.

5.2 PUBLIC OUTREACH

- The operator shall host public meetings for residents, as needed, to provide a summary of the fugitive dust monitoring.

5.3 TRAVEL ON UNPAVED ROADS

- Gravel shall be placed on the main haul road between the entrance to the site and the plant to reduce dust, to the extent feasible, and dust-suppressant shall be applied on the unpaved portion of the main haul road.

- Vehicle speeds on unpaved roadways shall be maintained to the lowest practical speeds, no greater than 10 mph.

- The ingress onto unpaved roads shall be posted with visible speed limit signs.

- Watering frequency shall be sufficient such that there are no visible emissions (0 percent opacity) 8 feet above haul roads. Or

  Watering shall occur at 2-hour intervals during any time the project is in operation unless the road surface appears wet. If the road surface is found visibly wet, it shall be logged as "visibly wet" in lieu of entering the 2-hour interval watering in the log.

- All haul trucks leaving the site with aggregate shall maintain at least 2 feet of freeboard or securely cover the loads, if required.

- Non-toxic, environmentally safe soil stabilizers, such as Aggrebind®, or other methods of soil stabilization/fugitive dust prevention, shall be applied to all disturbed surfaces left inactive for 4 or more days (e.g., berms for topsoil storage or visual or noise mitigation). The U.S. Environmental Protection Agency and CARB-approved list of non-toxic, environmentally safe soil

stabilizers (San Joaquin Valley Air Pollution Control District [SJVAPCD] 2017) and the U.S. Department of Agriculture (USDA) Dust Palliative Selection and Application Guide (USDA 1999) are provided as Attachment E.

- Inactive disturbed areas where mining activities have been completed shall be revegetated as soon as possible to prevent wind erosion.

5.4 TRAVEL ON PAVED ROADS

- The ingress and egress of the project site shall be paved to minimize mud and dust from being transported onto paved roadway surfaces.

- Vehicle speeds on on-site paved roadways shall not exceed 10 mph.

- Paved roads shall be swept every 4 hours during anytime the project is in operation and shall be swept at the end of every workday. The time of sweeping shall be recorded in a log. Or

  Rumble grates and wheel washer shall be installed prior to the paved roads and the paved roads shall be swept on a weekly basis. The speed limit across the rumble grates and through the wheel washer shall be posted at 5 mph to ensure proper wheel washing. The rumble grates shall be cleaned on a weekly basis. Records of paved road sweeping time and rumble grate cleaning shall be maintained on -site and made available to the SDAPCD inspectors upon request.

- SDAPCD Rule 55 requires that visible roadway dust as a result of active project operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, geotextiles, mulching, or seeding; watering or treating of transported material for out-bound transport trucks, or equally effective track-out/carry-out and erosion control measures; and be removed with a sweeper or with manual methods at the conclusion of each project workday when active project operations cease, or every 24 hours for continuous project operations.

- SDAPCD Rule 55 requires that if a street sweeper is used to remove any track-out/carry-out, only PM_{10}-efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

5.5 OPERATIONS

- Exposed stockpiles of sand shall be contained within perimeter silt fencing, treated with water or non-toxic, environmentally safe soil stabilizers, or covered, as necessary.

- Drop heights from excavators and loaders shall be minimized to a distance no more than 5 feet.

- Mining activities shall be suspended when sustained (i.e., a period or periods of time aggregating more than 3 minutes in any 60-minute period) wind speed instantaneously exceeds 25 mph or when the wind speed average for 15 minutes is greater than 15 mph.

- A water truck with ample water supply shall be on the project site at all times (including nights, weekends, and holidays).

5.6 AGGREGATE PROCESSING PLANT

- Water sprayers shall be used, or material moisture maintained, at transfer points and screening emissions as necessary to control dust from aggregate washing/separation activities to not exceed SDAPCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period.

- The operator shall not cause or allow the emissions of fugitive dust from any transport, handling, or storage activity for which such dust remains visible in the atmosphere beyond the property line of the emissions source (this condition does not apply when the wind speed instantaneously exceeds 25 mph or when the wind speed average for 15 minutes is greater than 15 mph).

5.7 STANDBY/CONTINGENCY CONTROL MEASURES

- In the event that wind speed instantaneously exceeds 25 mph or when average wind speed for 15 minutes is greater than 15 mph or other atypical conditions affect the site, standby measures will be implemented as appropriate. Standby control measures can include increased watering or temporary suspension of activities. The determination to use standby control measures will be per the discretion of the Site Coordinator.

6.0 EMPLOYEE AND CONTRACTOR AWARENESS TRAINING

To ensure that all fugitive dust control measures are implemented, the operator shall conduct an employee and contractor awareness training that shall include all applicable fugitive dust control measures and the importance of strict compliance. The operator shall track training events by ensuring that all participants complete a sign-in sheet and that hard hat decals are provided to all individuals that have completed the training. The operator shall conduct internal inspections to ensure that appropriate fugitive dust control measures are being implemented as outlined in Section 5. Inspections shall be conducted by the Site Coordinator trained in all parts of the Plan. The responsibilities of the Site Coordinator are described in detail in Section 2.1. An example of a sign-in sheet is provided as Attachment C.

7.0 REFERENCES

California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: https://www.arb.ca.gov/ch/handbook.pdf.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.

San Diego, County of. 2012. San Diego County Grading Ordinance. October 25. Available at: https://www.sandiegocounty.gov/content/dam/sdc/dpw/LAND_DEVELOPMENT_DIVISION/landpdf/gradingordinance.pdf.

San Diego County Air Pollution Control District (SDAPCD). 2021. Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review/Revised February 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Toxic_Air_Cotaminants/APCD_R1200.pdf.

2019a. Regulation II: Permits; Rule 20.2: New Source Review—Non-Major Sources. Revised June 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20.2.pdf.

2019b. Regulation II: Permits; Rule 20.2: New Source Review—Non-Major Sources. Revised June 26. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20.3.pdf.

2017. Attainment Status. Available at: http://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning/attainment-status.html.

2009. Regulation IV: Prohibitions; Rule 55: Fugitive Dust. June 24. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.

1997. Regulation IV: Prohibitions; Rule 50: Visible Emissions. August 13. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50.pdf.

1976. Regulation IV: Prohibitions; Rule 50.1: NSPS and NESHAPS Visible Emissions Requirements; and Rule 51: Nuisance. November 11. Available at: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50-1-51.pdf.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2017. Products Available for Controlling Dust. Updated September. Available at: https://www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm. Accessed March 2021.

U.S. Department of Agriculture (USDA). 1999. Dust Palliative Selection and Application Guide. November. Available at: http://bentoncleanair.org/uploads/pdfs/dust_palliative.pdf.

Attachment A

Example Checklists

Fugitive Dust Control Inspection Checklist – Forecasted High Winds

Date/Time Observed	Observation/ Wind Speed (mph)	Comments (including location, wind speed, wind direction, and observed rainfall)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Haul Roads Moisture/Watering/Suppressants

Date/Time Observed	Observation (Visibly Wet or Watering Interval)	Comments (including location, wind speed, wind direction, and observed rainfall, and if visible emissions eight feet above haul roads)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Unstabilized Areas Watering/Moisture or Soil Suppressants Used

Date/Time Observed	Observation	Comments (including location, wind speed, wind direction, and observed rainfall)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Sweeping of Paved Roads

Date/Time Observed	Observation	Comments (including location, wind speed, wind direction, and observed rainfall)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Aggregate Processing Plant Water Spray Operation

Date/Time Observed	Observation	Comments (including location, wind speed, wind direction, and observed rainfall)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Water Tank Filled and Number of Water Trucks Operating

Date/Time Observed	Observation	Comments	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Fugitive Dust Readings

Date/Time Observed	Observation	Comments (including location, wind speed, wind direction, and observed rainfall)	Observer Name/Title/Signature/Date

Fugitive Dust Control Inspection Checklist – Complaints and Corrective Actions Taken

Date/Time Observed	Complaint	Corrective Action Taken	Observer Name/Title/Signature/Date

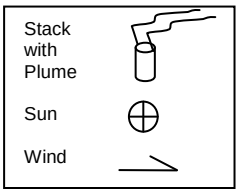
Attachment B

Visible Emission Observation Form

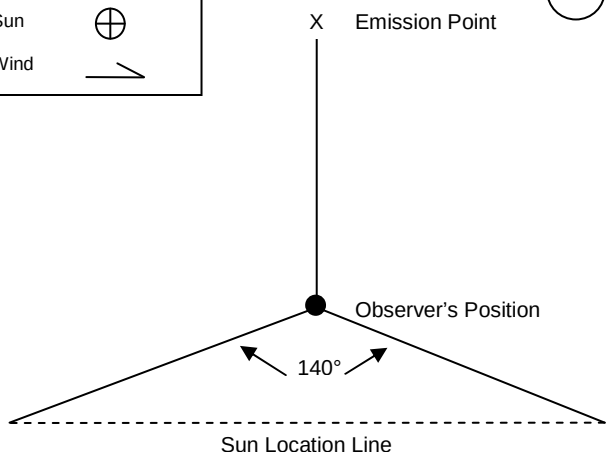
California Environmental Protection Agency
Air Resources Board

VISIBLE EMISSION OBSERVATION FORM

Company Name		
Street Address		
City	State	Zip
Phone	Source ID Number	
Process Equipment	Operating Mode	
Control Equipment	Operating Mode	
Describe Emission Point		
Height Above Ground Level	Height Relative to Observer Start: End:	
Distance from Observer Start: End:	Direction from Observer Start: End:	
Describe Emissions Start: End:		
Emission Color Start End:	If Water Droplet Plume Attached ☐ Detached ☐	
Point in plume at which opacity was determined Start: End:		
Describe Plume Background Start: End:		
Background Color Start: End:	Sky Conditions Start: End:	
Wind Speed Start: End:	Wind Direction Start: End:	
Ambient Temp Start: End:	Wet Bulb Temp	RH, Percent



Source Layout Sketch



Additional Information

Observation Date	Start Time	End Time

Sec / Min	0	15	30	45	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Observers Name (Print)	
Observers Signature	Date
Organization	
Certified By	Date
Continued on VEO form Number	

Attachment C

Awareness Training Sign-In

Employee and Contractor Awareness Training Sign-in Sheet

Date: _____

Time: _____

Location: _____

Name	Signature	Date

Attachment D

Applicable Rules and Regulations

RULE 20.2
NEW SOURCE REVIEW
NON - MAJOR STATIONARY SOURCES
(ADOPTED AND EFFECTIVE 5/17/94)
(REV. ADOPTED AND EFFECTIVE 12/17/97)
(REV. ADOPTED 11/4/98; EFFECTIVE 12/17/98)
(REV. ADOPTED 4/27/16; EFFECTIVE 11/5/18)

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NOTE: The following listed sections and subsections will not be submitted to the federal Environmental Protection Agency (EPA) for inclusion in the San Diego State Implementation Plan (SIP). As such, the following listed sections and subsections are not enforceable by EPA, but remain enforceable by the San Diego County Air Pollution Control District.

Subsections (d)(2)(i)(B), (d)(2)(v) and (d)(2)(vi)(B); and Subsection (d)(3).

RULE 20.2. NEW SOURCE REVIEW - NON-MAJOR STATIONARY SOURCES

(Adopted & Effective 5/17/94)
(Rev. Adopted & Effective 12/17/97)
(Rev. Adopted 11/4/98; Effective 12/17/98)
(Rev. Adopted 4/27/16; Effective 11/5/18)

(a) APPLICABILITY

This rule applies to any new or modified stationary source, to any new or modified emission unit, to any replacement emission unit, and to any relocated emission unit being moved to a stationary source provided that, after completion of the project, the stationary source is not a major stationary source. This rule does not apply to identical or like-kind replacement emission units exempt from Authority to Construct and modified Permit to Operate requirements pursuant to these Rules and Regulations. This rule does not apply to any portable emission unit. Compliance with this rule does not relieve a person from having to comply with other applicable requirements in these rules and regulations, or state and federal law.

(b) EXEMPTIONS

The exemptions contained in Rule 20.1, Section (b) apply to this rule. In addition, for purposes of this rule, the following exemptions shall apply.

(1) An existing permitted emission unit which is to be relocated from one stationary source within San Diego County to another shall be exempt from the BACT requirements of Subsection (d)(1)(ii), provided that:

(i) The emission unit is not being modified,

(ii) There is no increase in the emission unit's potential to emit,

(iii) The unit is not located for more than 180 days at the stationary source where it is moved to, and

(iv) The emission unit is not located at more than two stationary sources over any 365-day period.

(2) An existing permitted emission unit which is to be permanently relocated from one stationary source within San Diego County to another stationary source shall be exempt from the BACT requirements of Subsection (d)(1)(ii), provided that:

(i) There is no increase in the emission unit's potential to emit,

(ii) The relocation occurs within 10 miles of the previous stationary source,

(iii) The relocated emission unit commences operating at the stationary source it was relocated to within one year of the emission unit ceasing operations at its previous stationary source.

(c) **DEFINITIONS**

The definitions contained in Rule 20.1, Section (c) apply to this rule.

(d) **STANDARDS**

(1) **BEST AVAILABLE CONTROL TECHNOLOGY (BACT)**

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any emission unit and project subject to this rule unless the applicant demonstrates that the following requirements will be satisfied:

(i) **New or Modified Emission Units**

Any new or modified emission unit which has any increase in its potential to emit particulate matter (PM_{10}), oxides of nitrogen (NOx), volatile organic compounds (VOC) or oxides of sulfur (SOx) and which unit has a post-project potential to emit of 10 pounds per day or more of PM_{10}, NOx, VOC, or SOx shall be equipped with Best Available Control Technology (BACT) for each such air contaminant.

(ii) **Relocated Emission Units**

Except as provided for in Subsections (b)(1) and (b)(2), any relocated emission unit with a post-project potential to emit of 10 pounds per day or more of PM_{10}, NOx, VOC or SOx shall be equipped with BACT for each such air contaminant.

(iii) **Replacement Emission Units**

Any replacement emission unit with a post-project potential to emit of 10 pounds per day or more of PM_{10}, NOx, VOC or SOx shall be equipped with BACT for each such air contaminant.

(iv) **Emergency Equipment Emission Units**

For any emergency equipment emission unit subject to the BACT requirements of Subsections (d)(1)(i), (ii) or (iii) of this rule, BACT shall apply based on the unit's non-emergency operation emissions and excluding the unit's emissions while operating during emergency situations.

(v) **Projects with Multiple Emission Units**

Where a project at a stationary source consists of multiple new, modified, relocated or replacement emission units required by this Subsection (d)(1) to be equipped with BACT, BACT shall be evaluated for each such emission unit pursuant to (d)(1)(i) through (iv). The Air Pollution Control Officer may require that BACT be also evaluated for combinations of such emission units. Where technologically feasible, lowest emitting and cost-effective, the Air Pollution Control Officer may

require that BACT be applied to a combination of such emission units. In such case, BACT applied to such combinations shall not result in greater emissions for the project nor for each emission unit that is part of the project than were BACT applied to each emission unit.

(2) **AIR QUALITY IMPACT ANALYSIS (AQIA)**

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any emission unit and project subject to this rule unless the following requirements are satisfied.

The demonstrations required by this Subsection (d)(2) shall be based on the emission unit or project emission exhaust system design and discharge characteristics but not to an extent greater than good engineering practice stack height. This provision shall not be applied to limit actual stack height.

(i) **AQIA for New, Modified, Replacement or Relocated Emission Units and Projects**

(A) For each new, modified, replacement or relocated emission unit and project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.2 – 1 below, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA, as defined in Rule 20.1, that such emissions increase will not:

(1) cause a violation of a national ambient air quality standard anywhere that does not already exceed such standard, nor

(2) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor

(3) prevent or interfere with the attainment or maintenance of any national ambient air quality standard.

(B) For each new, modified, replacement or relocated emission unit and project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.2 – 1 below, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA that such emissions increase will not:

(1) cause a violation of a state ambient air quality standard anywhere that does not already exceed such standard, nor

(2) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), nor

(3) prevent or interfere with the attainment or maintenance of a state ambient air quality standard.

TABLE 20.2 - 1
AQIA Trigger Levels

Air Contaminant	Emission Rate (lb/hr)	(lb/day)	(tons/yr)
Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	67	10
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6

(ii) **AQIA for $PM_{2.5}$ and PM_{10} Emission Increases**

In determining if a $PM_{2.5}$ or PM_{10} AQIA is required under this Subsection (d)(2), the emissions increases shall include both directly emitted $PM_{2.5}$ and PM_{10}, and $PM_{2.5}$ and PM_{10} which would condense after discharge to the atmosphere. If a $PM_{2.5}$ or PM_{10} AQIA is required, the AQIA shall include both directly emitted $PM_{2.5}$ or PM_{10}, and $PM_{2.5}$ or PM_{10} which would condense after discharge to the atmosphere. Any permit terms or conditions limiting emissions of $PM_{2.5}$ or PM_{10} as a result of the requirements of this Subsection (d)(2) shall apply to the combination of both directly emitted and condensable $PM_{2.5}$ or PM_{10}. The provisions of this Subsection (d)(2)(ii) shall apply separately to $PM_{2.5}$ and PM_{10}.

(iii) **AQIA for Projects**

Where a project consists of multiple new, modified, replacement or relocated emission units, the determination of whether an air quality impact analysis is required under this Subsection (d)(2) shall be based on the aggregate total of emission increases occurring from those project emission units for which emissions are increasing, excluding any concurrent actual emission reductions occurring from other emission units at the same stationary source. If an air quality impact analysis is required, the air quality impacts of the project shall be based on the aggregate of the air quality impacts of each unit's emission increases at each off-site location analyzed. The simultaneous air quality impact reduction at each off-site location analyzed that results from any concurrent, enforceable actual emission reductions occurring from other emission units at the same stationary source may be included to determine the net air quality impacts of a project at each off-site location.

(iv) **AQIA Not Required for NOx or VOC Impacts on Ozone**

Notwithstanding the requirements of this Subsection (d)(2), a demonstration shall not be required for determining the impacts from an emission unit's or project's NOx or VOC emissions on an ambient air quality standard for ozone unless the Air Pollution Control Officer determines that adequate procedures exist for determining the impacts of NOx or VOC emissions from such emission unit or

project on ozone ambient air quality standards and that such procedures are acceptable to the California Air Resources Board (ARB) with regard to state ambient air quality standards and the federal Environmental Protection Agency (EPA) with regard to national ambient air quality standards.

(v) **AQIA Requirements for PM_{10} Impacts May be Waived**

Notwithstanding the requirements of Subsection (d)(2)(i), the Air Pollution Control Officer may waive the AQIA requirements for PM_{10} impacts on the state ambient air quality standards, as follows:

(A) If the project will result in a maximum PM_{10} air quality impact of less than 5 $\mu g/m^3$ (24-hour average basis) and 3 $\mu g/m^3$ (annual geometric mean basis), all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, must be offset at a ratio of 1.5 to 1.

(B) If the project will result in a maximum PM_{10} air quality impact equal to or greater than 5 $\mu g/m^3$ but less than 10 $\mu g/m^3$ (24-hour average basis) or equal to or greater than 3 $\mu g/m^3$ but less than 6 $\mu g/m^3$ (annual geometric mean basis):

(1) the project must be equipped with BACT for PM_{10} emissions without consideration for cost-effectiveness,

(2) all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, must be offset at an overall ratio of 1.5 to 1,

(3) sufficient emission offsets must be provided within the project's impact area to offset all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, at a ratio of at least 1 to 1,

(4) emission offsets in an amount and location which are demonstrated to have a modeled off-stationary source air quality impact at least equal to the project's PM_{10} ambient air quality impact minus 5 $\mu g/m^3$ (24-hour average basis) and 3 $\mu g/m^3$ (annual geometric mean basis) must be provided, and

(5) all reasonable efforts to reduce the air quality impacts of the project are made.

(C) In no case shall the project result in a maximum PM_{10} air quality impact equal to or greater than 10 $\mu g/m^3$ (24-hour average basis) or equal to or greater than 6 $\mu g/m^3$ (annual geometric mean basis).

(vi) **AQIA May be Required**

(A) Notwithstanding any other provision of this rule, the Air Pollution Control Officer may require an AQIA for any new or modified stationary source, any new or modified emission unit or any project if the stationary source, emission unit or project may be expected to:

(1) cause a violation of a national ambient air quality standard anywhere that does not already exceed such standard, or

(2) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, or

(3) prevent or interfere with the attainment or maintenance of any national ambient air quality standard.

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any stationary source, emission unit or project for which an AQIA is required pursuant to this Subsection (d)(2)(vi)(A) unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that the emission increases from such source, unit or project will not result in any of the impacts to the national ambient air quality standards specified above in (1), (2) and (3) of this Subsection (d)(2)(vi)(A).

(B) Notwithstanding any other provision of this rule, the Air Pollution Control Officer may require an AQIA for any new or modified stationary source, any new or modified emission unit or any project if the stationary source, emission unit or project may be expected to:

(1) cause a violation of a state ambient air quality standard anywhere that does not already exceed such standard, or

(2) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), or

(3) prevent or interfere with the attainment or maintenance of a state ambient air quality standard.

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any stationary source, emission unit or project for which an AQIA is required pursuant to this Subsection (d)(2)(vi)(B) unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that the emission increases from such source, unit or project will not result in any of the impacts to state ambient air quality standards specified above in (1), (2) and (3) of this Subsection (d)(2)(vi)(B).

(3) **SIGNIFICANT IMPACT IN CLASS I AREAS**

The Air Pollution Control Officer shall not issue an Authority to Construct or modified Permit to Operate for any emission unit or project which is expected to have a significant impact on any Class I area, as determined by an AQIA required pursuant to Subsection (d)(2), unless the following requirements are satisfied. The Air Pollution Control Officer shall:

(i) **Federal Land Manager and Federal EPA Notification**

Notify the Federal Land Manager and the federal EPA, in writing. This notification shall include all of the information specified by Subsection (d)(4)(iv), the location of the project, the project's approximate distance from all Class I areas within 100 km of San Diego County (as specified in Table 20.1 - 3) and the results of the AQIA, and

(ii) **ARB, SCAQMD and Imperial County APCD Notification**

Notify and submit to the California ARB, the South Coast Air Quality Management District and the Imperial County Air Pollution Control District the information specified in Subsection (d)(4)(iv).

(4) **PUBLIC NOTICE AND COMMENT**

The Air Pollution Control Officer shall not issue an Authority to Construct or modified Permit to Operate for any emission unit or project subject to the AQIA or notification requirements of Subsection (d)(2) or (d)(3), nor for any emission unit or project which results in an emissions increase of VOCs equal to or greater than 250 pounds per day or 40 tons per year, unless the following requirements are satisfied.

(i) **Public Comment Period**

At least 40 days before taking final action on an application subject to the requirements of Subsection (d)(2) or (d)(3), the Air Pollution Control Officer shall:

(A) provide the public with notice of the proposed action in the manner prescribed by Subsection (d)(4)(iii), and

(B) provide a copy of the public notice to the federal EPA Administrator, through its Region 9 office, to the California ARB and to any tribal air pollution control agencies having jurisdiction in the San Diego Air Basin, and

(C) make available for public inspection all information relevant to the proposed action as specified in Subsection (d)(4)(iv), and

(D) provide at least a 30-day period within which comments may be submitted.

The Air Pollution Control Officer shall consider all comments submitted.

(ii) **Applicant Response**

Except as agreed to by the applicant and the Air Pollution Control Officer, no later than 10 days after close of the public comment period, the applicant may submit written responses to any comment received during the public comment period. Responses submitted by the applicant shall be considered prior to the Air Pollution Control Officer taking final action. The applicant's responses shall be made available in the public record of the permit action.

(iii) **Publication of Notice**

The Air Pollution Control Officer shall publish a notice of the proposed action in at least one newspaper of general circulation in San Diego County. The notice shall:

(A) describe the proposed action, including the use of any modified or substitute air quality impact model as allowed under 40 CFR Part 51, Appendix W, and

(B) identify the location(s) where the public may inspect the information relevant to the proposed action, and

(C) indicate the date by which all comments must be received by the District for consideration prior to taking final action.

(iv) **Information to be Made Available for Public Inspection**

The relevant information to be made available for public inspection shall include but not be limited to:

(A) the application and all analyses and documentation used to support the proposed action, the District's evaluation of the project, a copy of the draft Authority to Construct or modified Permit to Operate and any information submitted by the applicant not previously labeled Trade Secret pursuant to Regulation IX, and

(B) the proposed District action on the application, including the preliminary decision to approve, conditionally approve or deny the application and the reasons therefore.

(5) **RESERVED**

(6) **RESERVED**

RULE 20.3
NEW SOURCE REVIEW
MAJOR STATIONARY SOURCES AND PSD STATIONARY SOURCES
(ADOPTED AND EFFECTIVE 5/17/94)
(REV. ADOPTED AND EFFECTIVE 12/17/97)
(REV. ADOPTED 11/4/98; EFFECTIVE 12/17/98)
(REV. ADOPTED 4/27/16; EFFECTIVE 11/5/18)

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NOTE: The following listed sections and subsections will not be submitted to the federal Environmental Protection Agency (EPA) for inclusion in the San Diego State Implementation Plan (SIP). As such, the following listed sections and subsections are not enforceable by EPA, but remain enforceable by the San Diego County Air Pollution Control District.

Subsection(d)(1)(vi); Subsections (d)(2)(i)(B), (d)(2)(v), and (d)(2)(vi)(B); and, Subsection (d)(3).

RULE 20.3. NEW SOURCE REVIEW - MAJOR STATIONARY SOURCES AND PREVENTION OF SIGNIFICANT DETERIORATION (PSD) STATIONARY SOURCES

(Adopted & Effective 5/17/94)
(Rev. Adopted & Effective 12/17/97)
(Rev. Adopted 11/4/98; Effective 12/17/98)
(Rev. Adopted 4/27/16; Effective 11/5/18)

(a) APPLICABILITY

This rule applies to any new or modified major stationary source, to any new or modified emission unit, to any replacement emission unit, and to any relocated emission unit being moved to a stationary source if, after completion of the project, the stationary source will be a major stationary source or a Prevention of Significant Deterioration (PSD) Stationary Source. This rule does not apply to identical or like-kind replacement emission units exempt from Authority to Construct and modified Permit to Operate requirements pursuant to these Rules and Regulations. This rule does not apply to any portable emission unit. Compliance with this rule does not relieve a person from having to comply with other applicable requirements in these rules and regulations, or state and federal law.

(b) EXEMPTIONS

The exemptions contained in Rule 20.1, Section (b) apply to this rule. In addition, for purposes of this rule, the following exemptions shall apply.

(1) An existing permitted emission unit which is to be temporarily relocated from one stationary source within San Diego County to another stationary source shall be exempt from the BACT requirements of Subsection (d)(1)(ii) provided that:

(i) The emission unit is not being modified,

(ii) There is no increase in the emission unit's potential to emit,

(iii) The unit is not located for more than 180 days at the stationary source where it is moved to,

(iv) The emission unit is not located at more than two stationary sources over any 365-day period, and

(v) The emission unit at the new location does not constitute a new federal major stationary source nor a federal major modification.

(2) An existing permitted emission unit which is to be permanently relocated from one stationary source within San Diego County to another stationary source shall be exempt from the BACT requirements of Subsection (d)(1)(ii), provided that:

(i) There is no increase in the emission unit's potential to emit,

(ii) The relocation occurs within 10 miles of the previous stationary source,

(iii) The relocated emission unit commences operating at the stationary source it was relocated to within one year of the emission unit ceasing operations at its previous stationary source, and

(iv) The emission unit at the new location does not constitute a new federal major stationary source nor a federal major modification.

(3) Emission increases resulting from an air contaminant emission control project shall be exempt from the emission offset requirements of Subsection (d)(5) of this rule to the extent that the project does not include an increase in the capacity of the emission unit being controlled. Emission increases that are associated with an increase in capacity of the emission unit being controlled shall be subject to the emission offset provisions of this rule, as applicable. This exemption from offsets shall not apply to any air contaminant for which the emissions increase constitutes a new federal major stationary source or a federal major modification.

(c) DEFINITIONS

The definitions contained in Rule 20.1, Section (c) apply to this rule.

(d) STANDARDS

(1) BEST AVAILABLE CONTROL TECHNOLOGY (BACT) AND LOWEST ACHIEVABLE EMISSION RATE (LAER)

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any emission unit and project subject to this rule unless the applicant demonstrates that the following requirements will be satisfied:

(i) New or Modified Emission Units - BACT

Except as provided in Subsection (d)(1)(v), any new or modified emission unit which has any increase in its potential to emit particulate matter (PM_{10}), oxides of nitrogen (NOx), volatile organic compounds (VOC), or oxides of sulfur (SOx) and which unit has a post-project potential to emit 10 pounds per day or more of PM_{10}, NOx, VOC or SOx shall be equipped with BACT for each such air contaminant.

(ii) Relocated Emission Units - BACT

Except as provided in Subsections (b)(1), (b)(2) and (d)(1)(v), any relocated emission unit with a post-project potential to emit of 10 pounds per day or more of PM_{10}, NOx, VOC or SOx shall be equipped with BACT for each such air contaminant.

(iii) **Replacement Emission Units - BACT**

Except as provided in Subsection (d)(1)(v), any replacement emission unit with a post-project potential to emit of 10 pounds per day or more of PM_{10}, NOx, VOC or SOx shall be equipped with BACT for each such air contaminant.

(iv) **Emergency Equipment Emission Units**

For any emergency equipment emission unit subject to the BACT requirements of Subsections (d)(1)(i), (ii), (iii) or (vi) of this rule, BACT shall apply based on the unit's non-emergency operation emissions and excluding the unit's emissions while operating during emergency situations.

(v) **Lowest Achievable Emission Rate (LAER)**

(A) Except as provided for in paragraphs (d)(1)(v)(B) and (C) below, LAER shall be required for each new, modified, relocated or replacement emission unit and project which results in an emissions increase which constitutes a new major stationary source or major modification. LAER shall be required only for those air contaminants and their precursors for which the stationary source is major and for which the District is classified as non-attainment of a national ambient air quality standard.

(B) If actual emission reductions of VOC or NOx, as applicable, are provided from within the stationary source at a ratio of at least 1.3 to 1.0 for the emissions increases of VOC or NOx from an emissions unit or project subject to the LAER provisions of this Subsection (d)(1)(v), such emission increases shall be exempt from the requirement for LAER and from further emission offsets under Subsection (d)(5) of this rule and shall instead be subject to BACT.

(C) A new, modified, relocated or replacement emission unit or project at an existing major stationary source which results in an emission increase of VOC or NOx, and which increase would be otherwise subject to LAER, shall be subject to BACT instead of LAER provided the stationary source's post-project aggregate potential to emit is less than 100 tons per year of VOC or NOx. This provision shall apply on a pollutant-specific basis.

(vi) **New, Modified, Relocated or Replacement Emission Units – PSD Stationary Sources**

Any new, modified, relocated or replacement emission unit at a PSD stationary source, which emission unit has an emission increase of one or more air contaminants which constitutes a new PSD stationary source (see Table 20.1-11) or PSD modification (see Tables 20.1-8 and 20.1-10), shall be equipped with BACT for each such air contaminant.

(vii) **Projects with Multiple Emission Units**

Where a project at a stationary source consists of more than one new, modified, relocated or replacement emission unit required by this Subsection (d)(1) to be equipped with BACT or LAER, BACT or LAER, as applicable, shall be evaluated for each such emission unit. The Air Pollution Control Officer may require that BACT or LAER, as applicable, be also evaluated for combinations of such emission units. Where technologically feasible, lowest emitting and, for BACT, cost-effective, the Air Pollution Control Officer may require that BACT or LAER be applied to a combination of such emission units. In such case, BACT or LAER applied to such combinations shall not result in greater emissions for the project nor for each emission unit that is part of the project than were BACT or LAER, as applicable, applied to each emission unit.

(2) **AIR QUALITY IMPACT ANALYSIS (AQIA)**

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any emission unit or project subject to this rule unless the following requirements are satisfied.

The demonstrations required by this Subsection (d)(2) shall be based on the emission unit or project emission exhaust system design and discharge characteristics but not to an extent greater than good engineering practice stack height. This provision shall not be applied to limit actual stack height.

(i) **AQIA for New, Modified, Replacement or Relocated Emission Units and Projects**

(A) For each new, modified, replacement or relocated emission unit and project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.3 – 1 below, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer through an AQIA, as defined in Rule 20.1, that such emissions increase will not:

(1) cause a violation of a national ambient air quality standard anywhere that does not already exceed such standard, nor

(2) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor

(3) prevent or interfere with the attainment or maintenance of any national ambient air quality standard, nor

(4) by itself, result in an increase in ambient concentrations of any air contaminant, for which San Diego County is in attainment of the applicable national ambient air quality standards, greater than the applicable air quality increment above the baseline concentration for that air contaminant in any Class I or Class II area. This provision shall only

apply if the emissions increase constitutes a new federal major stationary source or federal major modification.

(B) For each new, modified, replacement or relocated emission unit and project which results in an emissions increase equal to or greater than any of the amounts listed in Table 20.3 – 1 below, the applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer, through an AQIA, that such emissions increase will not:

(1) cause a violation of a state ambient air quality standard anywhere that does not already exceed such standard, nor

(2) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), nor

(3) prevent or interfere with the attainment or maintenance of any state ambient air quality standard.

TABLE 20.3 - 1
AQIA Trigger Levels

	Emission Rate		
Air Contaminant	(lb/hr)	(lb/day)	(tons/yr)
Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	67	10
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6

(ii) **AQIA for $PM_{2.5}$ and PM_{10} Emission Increases**

In determining if a $PM_{2.5}$ or PM_{10} AQIA is required under this Subsection (d)(2), the emissions increases shall include both directly emitted $PM_{2.5}$ and PM_{10}, and $PM_{2.5}$ and PM_{10} which would condense after discharge to the atmosphere. If a $PM_{2.5}$ or PM_{10} AQIA is required, the AQIA shall include both directly emitted $PM_{2.5}$ or PM_{10}, and $PM_{2.5}$ or PM_{10} which would condense after discharge to the atmosphere. Any permit terms or conditions limiting emissions of $PM_{2.5}$ or PM_{10} as a result of the requirements of this Subsection (d)(2) shall apply to the combination of both directly emitted and condensable $PM_{2.5}$ or PM_{10}. The provisions of this Subsection (d)(2)(ii) shall apply separately to $PM_{2.5}$ and PM_{10}.

(iii) **AQIA for Projects**

Where a project consists of multiple new, modified, replacement or relocated emission units, the determination of whether an air quality impact analysis is required under this Subsection (d)(2) shall be based on the aggregate total of emissions increases occurring from those project emission units for which emissions are increasing, excluding any concurrent actual emission reductions occurring from

other emission units at the same stationary source. If an air quality impact analysis is required, the air quality impacts of the project shall be based on the aggregate of the air quality impacts of each unit's emission increases at each off-site location analyzed. The air quality impact reduction at any off-site location analyzed that results from any concurrent, enforceable actual emission reductions occurring from other emission units, at the same stationary source, may be included to determine the net air quality impacts of a project at such off-site location.

(iv) **AQIA Not Required for NOx or VOC Impacts on Ozone**

Notwithstanding the requirements of this Subsection (d)(2) a demonstration shall not be required for determining the impacts from an emission unit's or project's NOx or VOC emissions on an ambient air quality standard for ozone, unless the Air Pollution Control Officer determines that adequate procedures exist for determining the impacts of NOx or VOC emissions from such emission unit or project on ozone ambient air quality standards and that such procedures are acceptable to the California Air Resources Board (ARB) with regard to state ambient air quality standards and the federal Environmental Protection Agency (EPA) with regard to national ambient air quality standards.

(v) **AQIA Requirements for PM_{10} Impacts May be Waived**

Notwithstanding the requirements of Subsection (d)(2)(i), the Air Pollution Control Officer may waive the AQIA requirements for PM_{10} impacts on the state ambient air quality standards, as follows:

(A) If the project will result in a maximum PM_{10} air quality impact of less than 5 $\mu g/m^3$ (24-hour average basis) and 3 $\mu g/m^3$ (annual geometric mean basis), all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, must be offset at a ratio of 1.5 to 1.

(B) If the project will result in a maximum PM_{10} air quality impact equal to or greater than 5 $\mu g/m^3$ but less than 10 $\mu g/m^3$ (24-hour average basis) or equal to or greater than 3 $\mu g/m^3$ but less than 6 $\mu g/m^3$ (annual geometric mean basis):

(1) the project must be equipped with BACT for PM_{10} emissions without consideration for cost-effectiveness,

(2) all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, must be offset at an overall ratio of 1.5 to 1,

(3) sufficient emission offsets must be provided within the project's impact area to offset all of the project's PM_{10} emission increases, including area fugitive emissions of PM_{10}, at a ratio of at least 1 to 1,

(4) emission offsets in an amount and location which are demonstrated to have a modeled off-stationary source air quality impact at least equal to the project's PM_{10} ambient air quality impact minus 5 $\mu g/m^3$ (24-hour average basis) and 3 $\mu g/m^3$ (annual geometric mean basis) must be provided, and

(5) all reasonable efforts to reduce the air quality impacts of the project are made.

(C) In no case shall the project result in a maximum PM_{10} air quality impact equal to or greater than 10 $\mu g/m^3$ (24-hour average basis) or equal to or greater than 6 $\mu g/m^3$ (annual geometric mean basis).

(vi) **AQIA May be Required**

(A) Notwithstanding any other provision of this rule, the Air Pollution Control Officer may require an AQIA for any new or modified stationary source, any emission unit or any project if the stationary source, emission unit or project may be expected to:

(1) cause a violation of a national ambient air quality standard anywhere that does not already exceed such standard, or

(2) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, or

(3) prevent or interfere with the attainment or maintenance of any national ambient air quality standard, or

(4) by itself, result in an increase in ambient concentrations of any air contaminant, for which San Diego County is in attainment of the applicable national ambient air quality standards, greater than the applicable air quality increment above the baseline concentration for that air contaminant in any Class I or Class II area. This provision shall only apply if the emissions increase constitutes a new federal major stationary source or federal major modification.

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any stationary source, emission unit or project for which an AQIA is required pursuant to this Subsection (d)(2)(vi)(A) unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that the emission increases from such source, unit or project will not result in any of the impacts to the national ambient air quality standards or an air quality increment specified above in (1), (2), (3) and (4) of this Subsection (d)(2)(vi)(A).

(B) Notwithstanding any other provision of this rule, the Air Pollution Control Officer may require an AQIA for any new or modified stationary source, any emission unit or any project if the stationary source, emission unit or project may be expected to:

(1) cause a violation of a state ambient air quality standard anywhere that does not already exceed such standard, or

(2) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, except as provided for in Subsection (d)(2)(v), or

(3) prevent or interfere with the attainment or maintenance of any state ambient air quality standard.

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any stationary source, emission unit or project for which an AQIA is required pursuant to this Subsection (d)(2)(vi)(B) unless the applicant demonstrates to the satisfaction of the Air Pollution Control Officer that the emissions increases from such source, unit or project will not result in any of the impacts to state ambient air quality standards specified above in (1), (2) and (3) of this Subsection (d)(2)(vi)(B).

(3) **PREVENTION OF SIGNIFICANT DETERIORATION (PSD)**

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any project subject to this Subsection (d)(3) unless the applicant demonstrates that the following requirements are satisfied. The demonstrations required by this Subsection (d)(3) shall be based on the emission unit or project emission exhaust system design and discharge characteristics but not to an extent greater than good engineering practice stack height. This provision shall not be applied to limit actual stack height.

(i) **Applicability**

(A) PSD Stationary Sources

(1) The provisions of Subsections (d)(3)(ii) through (vii) below shall apply to any new PSD stationary source and to any PSD modification, for those air contaminants for which the District is classified as attainment or unclassified with respect to a national ambient air quality standard.

(2) The provisions of Subsections (d)(3)(ii), (iii), (v) and (vii) below shall apply to any emission increase of a non-criteria air contaminant at a PSD stationary source with a potential to emit equal to or greater than a non-criteria pollutant emissions significance level (see Table 20.1-8) for the air contaminant.

(B) Major Stationary Sources – Projects Causing a Significant Impact

The provisions of Subsections (d)(3)(ii) through (vii) shall apply to any project at a new or modified major stationary source, which project is expected to have, as determined by an AQIA required pursuant to Subsection (d)(2):

(1) a significant impact on any Class I area, regardless of the Class I area's national attainment or nonattainment classification, or

(2) a significant impact on any Class II area where the Class II area is classified as attainment of the national ambient air quality standard for that air contaminant for which there is a significant impact.

(ii) **Notification Requirements**

(A) Notification of Federal Land Manager - Before Application Submittal

The applicant shall provide written notification to the Federal Land Manager of the applicant's intent to file an application for an Authority to Construct, Permit to Operate, or a Determination of Compliance pursuant to Rule 20.5, not less than 30 days prior to application submittal. The applicant's notification to the Federal Land Manager shall include copies of all of the analyses required by this Subsection (d)(3). Concurrently, the applicant shall notify the federal EPA and the District, and provide copies of the written notification given to the Federal Land Manager.

(B) Notification of Federal Land Manager - After Application Submittal

If a project is modified prior to issuance of an Authority to Construct such that it becomes subject to Subsection (d)(3), the Air Pollution Control Officer shall provide the notification required by Subsection (d)(3)(ii)(A) no later than 15 days after it is determined that the provisions of Subsection (d)(3) apply.

(C) Failure to Notify

If the applicant has failed to provide the notification required by Subsection (d)(3)(ii)(A) within the time periods described in that subsection, the applicant shall provide the notification required by that subsection no later than 15 days after the Air Pollution Control Officer informs the applicant that the provisions of Subsection (d)(3) apply.

(iii) **Air Quality Impact Analysis (AQIA)**

Notwithstanding the emission threshold requirements of Subsection (d)(2), the applicant shall perform an AQIA as prescribed in Subsection (d)(2) for those pollutants for which, pursuant to Subsection (d)(3)(i), Subsection (d)(3) applies. In

conducting the AQIA, projected growth calculated pursuant to (d)(3)(v)(A) shall be taken into account. The Air Pollution Control Officer shall comply with the public comment and notice provisions of Subsection (d)(4) and with the following:

(A) Federal Land Manager and Federal EPA Notification

Notify the Federal Land Manager and EPA. This notification shall include all of the analyses required by Subsection (d)(3), the location of the project, the project's approximate distance from all Class I areas within 100 km of San Diego County (as specified in Rule 20.1, Table 20.1 - 3), and the results of the AQIA, at least 60 days prior to the public comment period required by Subsection (d)(4).

(B) ARB, SCAQMD and Imperial County APCD Notification

Notify and submit to the California ARB, the South Coast Air Quality Management District and the Imperial County Air Pollution Control District all of the information required by Subsection (d)(4)(iv).

(iv) **Air Quality Increment**

If the stationary source is located in an area designated as attainment or unclassified for the SO_2, NO_2, $PM_{2.5}$ or PM_{10} national ambient air quality standards pursuant to Section 107(d)(1)(D) or (E) of the federal Clean Air Act, the following shall be satisfied:

(A) The applicant shall demonstrate to the satisfaction of the Air Pollution Control Officer, using procedures approved by the Air Pollution Control Officer, that the applicable air quality increments are not exceeded within the project's impact area.

(B) The demonstration required by Subsection (d)(3)(iv)(A) shall include the following:

(1) a description of the federal attainment area where a significant impact occurs and the attainment area's corresponding minor source baseline date, and

(2) an analysis of the air quality impacts of all increment consuming and increment expanding emissions within the impact area, and

(3) an analysis of the air quality impacts of increment consuming and increment expanding emissions outside the impact area that may have a significant impact within the impact area.

(v) **Additional Impacts Analyses**

The analyses required by Subsections (d)(3)(v)(A) through (C) shall include the impacts of total emissions which exceed a non-criteria emissions significance level.

(A) Growth Analysis

The applicant shall prepare a growth analysis containing all of the following:

(1) an assessment of the availability of residential, commercial, and industrial services in the area surrounding the stationary source,

(2) a projection of the growth in residential, industrial and commercial sources, construction related activities, and permanent and temporary mobile sources which will result from the construction of the new major stationary source or major modification, including any secondary emissions associated with the construction,

(3) an estimate of the emission of all pollutants from the projected growth, and

(4) a determination of the air quality impacts occurring due to the combined emissions from the projected growth and the stationary source's emissions increase.

(B) Soils and Vegetation Analysis

The applicant shall perform an analysis of the impacts from air contaminants on soils and vegetation containing all of the following:

(1) the analysis shall be based on an inventory of the soils and vegetation types found in the impact area, including all vegetation with any commercial or recreational value, and

(2) the analysis shall consider the impacts of the combined emissions from projected growth as determined above, pursuant to Subsection (d)(3)(v)(A) and the stationary source's emissions increase.

(C) Visibility Impairment Analysis

The applicant shall perform a visibility impairment analysis. The analysis shall focus on the effects of the emission increases from the new PSD stationary source or PSD modification and their impacts on visibility within the impact area. The analysis shall include a catalog of scenic vistas, airports, or other areas which could be affected by a loss of visibility within the impact area, a determination of the visual quality of the impact area, and an initial

screening of emission sources to assess the possibility of visibility impairment. If the screening analysis indicates that a visibility impairment will occur, as determined by the Air Pollution Control Officer, a more in-depth visibility analysis shall be prepared.

(vi) **Protection of Class I Areas**

(A) Requirements

(1) An AQIA shall be prepared as prescribed in Subsection (d)(2) for all emission increases attributable to the new or modified stationary source, notwithstanding the emission threshold requirements of Subsection (d)(2). The AQIA shall include a demonstration that the new or modified stationary source will not cause or contribute to a violation of any national ambient air quality standard nor interfere with the attainment or maintenance of those standards.

(2) The analyses contained in Subsections (d)(3)(iii) through (v) shall be prepared for all emission increases which will result in a significant impact.

(B) Application Denial - Federal Land Manager/Air Pollution Control Officer Concurrence

The Air Pollution Control Officer shall deny an Authority to Construct for a new or modified stationary source subject to this Subsection (d)(3)(vi), if the Federal Land Manager demonstrates, and the Air Pollution Control Officer concurs, that granting the Authority to Construct would result in an adverse impact on visibility, soils, vegetation or air quality related values of a Class I area. The Air Pollution Control Officer shall take into consideration mitigation measures identified by the Federal Land Manager in making the determination.

(vii) **Additional Requirements**

(A) Tracking of Air Quality Increment Consumption Sources

The Air Pollution Control Officer shall track air quality increment consumption, consistent with current requirements established by the federal EPA.

(B) Preconstruction Monitoring Requirement

The applicant shall submit at least one year of continuous monitoring data, unless the Air Pollution Control Officer determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a shorter period. Such shorter period shall not be less than four consecutive

months. The requirement for monitoring may be waived by the Air Pollution Control Officer if representative monitoring data is already available.

(C) Cancellation of Authority to Construct

Any Authority to Construct or modified Permit to Operate issued to a PSD stationary source subject to the provisions of Subsection (d)(3) of this rule, shall become invalid if construction or modification is not commenced within 18 months after its issuance or if construction or modification is discontinued for a period of 18 months or more after its issuance. The 18-month period may be extended by the Air Pollution Control Officer for good cause.

(4) **PUBLIC NOTICE AND COMMENT**

The Air Pollution Control Officer shall not issue an Authority to Construct or modified Permit to Operate for any emission unit or project subject to the AQIA or notification requirements of Subsections (d)(2) or (d)(3) above, nor for any emission unit or project which results in an emissions increase of VOC equal to or greater than 250 pounds per day or 40 tons per year, nor for any emission unit or project that would otherwise constitute a new major stationary source or a major modification, unless the following requirements are satisfied.

(i) **Public Comment Period**

At least 40 days before taking final action on an application, the Air Pollution Control Officer shall:

(A) provide the public with notice of the proposed action in the manner prescribed in Subsection (d)(4)(iii), and

(B) provide the California ARB, federal EPA, and any tribal air pollution control agencies having jurisdiction in the San Diego Air Basin with notice of the proposed action and all of the information specified in Subsection (d)(4)(iv), and

(C) make available for public inspection all information relevant to the proposed action as specified in Subsection (d)(4)(iv), and

(D) provide at least a 30-day period within which comments may be submitted.

The Air Pollution Control Officer shall consider all comments submitted.

(ii) **Applicant Response**

Except as agreed to by the applicant and the Air Pollution Control Officer, no later than 10 days after close of the public comment period, the applicant may submit written responses to any comment received during the public comment period. Responses submitted by the applicant shall be considered prior to the Air Pollution Control Officer taking final action. The applicant's responses shall be made available in the public record of the permit action.

(iii) **Publication of Notice**

The Air Pollution Control Officer shall publish a notice of the proposed action in at least one newspaper of general circulation in San Diego County. The notice shall:

(A) describe the proposed action, including the use of any modified or substitute air quality impact model as allowed under 40 CFR Part 51, Appendix W, and

(B) identify the location(s) where the public may inspect the information relevant to the proposed action, and

(C) indicate the date by which all comments must be received by the District for consideration prior to taking final action.

(iv) **Information to be Made Available for Public Inspection**

The relevant information to be made available for public inspection shall include, but not be limited to:

(A) the application and all analyses and documentation used to support the proposed action, the District's evaluation of the project, a copy of the draft Authority to Construct or modified Permit to Operate and any information submitted by the applicant not previously labeled Trade Secret pursuant to Regulation IX, and

(B) the proposed District action on the application, including the preliminary decision to approve, conditionally approve or deny the application and the reasons therefor.

(5) **EMISSION OFFSET REQUIREMENTS**

Except as provided for in Subsection (b)(3), the Air Pollution Control Officer shall not issue an Authority to Construct or modified Permit to Operate for any new or modified stationary source, new or modified emission unit, replacement or relocated emission unit or project which results in an emissions increase that constitutes a new major stationary source or a major modification for NOx or VOC, or for any air contaminant, or its precursor air contaminants, for which the San Diego Air Basin has

been designated by EPA as nonattainment for the NAAQS for such air contaminant, unless emission offsets are provided, on a pollutant-specific basis, for such emission increases as specified below. Interpollutant offsets may be used, provided such offsets meet the requirements of Subsection (d)(5)(iii).

(i) **DETERMINATION OF APPLICABILITY**

The determination that a new emission unit, project or new stationary source is a new major stationary source shall be based on the emission unit's post-project potential to emit, or the project's or stationary source's aggregate post-project potential to emit, respectively. The determination that a new, modified, replacement or relocated emission unit or project at an existing major stationary source is a major modification shall be based on the stationary source's contemporaneous net emissions increase. These determinations shall be made on a pollutant-specific basis.

The applicant for a new major stationary source or a new, modified, replacement or relocated emission unit or project at an existing major stationary source shall submit, with each application for such emission unit, project or source, sufficient information to determine the emissions increases for the unit, project or source, and the contemporaneous net emissions increases if located at an existing major stationary source.

(ii) **EMISSION OFFSETS**

(A) If the NOx or VOC emissions increase from the project under review constitutes a new major stationary source or a major modification, such emissions increase shall be offset at a ratio of 1.2 to 1.0. For any other EPA designated nonattainment air contaminant or its precursor for which the emissions increase from the project under review constitutes a new major stationary source or a major modification, such emissions increase shall be offset at a ratio of 1.0 to 1.0. Interpollutant offsets may be used provided they meet the requirements of Subsection (d)(5)(iii) of this rule.

(B) When an emissions increase from a new, modified, replacement or relocated emission unit or project has been determined to be subject to, and approved as in compliance with, the emission offset requirements of this rule, the contemporaneous net emissions increase for the subject air contaminant shall thereafter not include the amount of such offset emissions increase from the new or modified emission unit or project, on a pollutant-specific basis.

(C) When the emissions offset requirements of this Subsection (d)(5) are being applied to a new federal major stationary source or federal major modification, the amount of creditable emission reductions from any emission reduction credits to be provided shall be adjusted as specified in Rule 20.1, Subsection (d)(5)(v). Such adjustments shall be made at the time that an Authority to Construct is issued, for credits provided by the applicant on or

before such issuance, and at the time that a credit is surrendered, for credits provided by the applicant after issuance of the Authority to Construct.

(iii) **Interpollutant Offsets**

The Air Pollution Control Officer may allow the use of interpollutant emission offsets at the ratios specified in Table 20.3 – 2 to satisfy the VOC and NOx offset requirements of this Subsection (d)(5). For any other EPA-designated nonattainment air contaminant having precursor air contaminant relationships specified in Table 20.1-9 of Rule 20.1, the Air Pollution Control Officer may allow the use of interpollutant offsets of such precursor air contaminants in addition to or in lieu of providing offsets of the nonattainment air contaminant only if done pursuant to an interpollutant offset protocol approved by the Air Pollution Control Officer and the federal EPA. Interpollutant offsets may only be allowed if the applicant demonstrates, to the satisfaction of the Air Pollution Control Officer, that the AQIA requirements of Subsection (d)(2), as applicable, are satisfied for the emissions increases. The interpollutant ratios shall be multiplied by the emission offset ratios required by this rule to determine the final offset ratio.

TABLE 20.3 – 2
Interpollutant Ratio

Emission Increase	Decrease	Interpollutant Ratio
Oxides of Nitrogen (NOx)	NOx	1.0
	VOC	2.0
Volatile Organic Compounds (VOC)	VOC	1.0
	NOx	1.0

(e) **ADDITIONAL REQUIREMENTS – FEDERAL MAJOR STATIONARY SOURCES**

(1) **Compliance Certification**

Prior to receiving an Authority to Construct or modified Permit to Operate pursuant to this rule, an applicant for any new federal major stationary source or federal major modification shall certify that all major stationary sources owned or operated by such person, or by any entity controlling, controlled by or under common control with such a person, in the state are in compliance, or on an approved schedule for compliance, with all applicable emission limitations and standards under the federal Clean Air Act.

(2) **Alternative Siting and Alternatives Analysis**

The applicant for any new federal major stationary source or federal major modification shall conduct an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source or modification which demonstrates that the benefits of the proposed source or modification outweigh the environmental and social costs imposed as a result of its location or construction. Analyses conducted in conjunction with state or federal statutory requirements may be used.

(3) **ANALYSIS OF VISIBILITY IMPAIRMENT IN CLASS I AREAS**

The Air Pollution Control Officer shall deny an Authority to Construct or modified Permit to Operate for any emission unit or project which constitutes a new federal major stationary source or federal major modification and which may have an impact on visibility in a Class I area unless the applicant demonstrates that the following requirements are satisfied. The demonstrations required by this Subsection (e)(3) shall be based on the emission unit or project emission exhaust system design and discharge characteristics but not to an extent greater than good engineering practice stack height. This provision shall not be applied to limit actual stack height.

(i) **Required Analyses**

At the time of application submittal, the applicant shall provide an initial screening analysis of the impairment to visibility, including any integral vista, in each affected Class I area as a result of the emissions increases from the new federal major stationary source or federal major modification, and any general commercial, residential, industrial and other growth associated with the new source or modification. If a screening analysis indicates that a visibility impairment will occur, as determined by the Air Pollution Control Officer, a more in-depth visibility impairment analysis shall be prepared. All analyses of impairment to visibility shall be conducted using applicable methods and procedures promulgated or approved by the federal EPA.

(ii) **Notification Requirements**

The Air Pollution Control Officer shall notify the Federal Land Manager and EPA not later than 30 days after receipt of an application for a new federal major source or a federal major modification subject to the requirements of this Subsection (e)(3). The notification shall include a copy of the application submittal, the location of the project, the project's approximate distance from all Class I areas within 100 km of San Diego County (as specified in Rule 20.1, Table 20.1 - 3), the results of any AQIA, and the results of any screening analysis and any more in-depth analysis of the impacts of the project on visibility in any Class I area.

(iii) **Application Denial**

The Air Pollution Control Officer shall deny an Authority to Construct or Permit to Operate for any new federal major stationary source or federal major modification if the Air Pollution Control Officer finds, after consideration of comments and any analysis from the Federal Land Manager, that the emissions increases from such new source or modification would have an adverse impact on visibility in a Class I area. As defined in 40 CFR 52.21(b)(29), an adverse impact on visibility means visibility impairment which interferes with the management, protection, preservation or enjoyment of the visitor's visual experience of the Class I area.

REGULATION IV. PROHIBITIONS

RULE 50. VISIBLE EMISSIONS (Effective 1/1/69; Rev. Effective 8/13/97)

(a) **APPLICABILITY**

Except as otherwise provided in Section (b), this rule applies to the discharge of any air contaminant other than uncombined water vapor.

(b) **EXEMPTIONS**

The provisions of this rule shall not apply to:

(1) Smoke from the use of an orchard or citrus grove heater which does not produce unconsumed solid carbonaceous matter at a rate in excess of one gram per minute;

(2) Emissions from the use of equipment in agricultural operations;

(3) Smoke from open fires set pursuant to a permit and its conditions;

(4) Abrasive blasting operations subject to the provisions of Rule 71 of Regulation IV of these Rules and Regulations;

(5) The use of visible emissions generating equipment in training sessions conducted by governmental agencies for the purpose of certifying persons to evaluate visible emissions from compliance with applicable provisions of the State of California Health and Safety Code and District Rules and Regulations;

(6) The use of obscurants for the purpose of training military personnel and the testing of military equipment by the United States Department of Defense on any military reservation;

(7) Equipment used exclusively for the purpose of flash-over fire fighting training; and

(8) Emissions from vessels using steam boilers during emergency boiler shutdowns for safety reasons, safety and operational tests required by governmental agencies, and where maneuvering is required to avoid hazards. Emissions from vessels during a breakdown condition, as long as it is reported in accordance with District Rule 98.

(c) **DEFINITIONS**

(1) **"Asphalt Plant Drop Zone"** means the area immediately below a device, in an asphalt manufacturing facility that loads or drops asphalt onto the cargo beds of trucks and trailers.

(2) **"Asphalt Paving Equipment"** means equipment handling asphalt cement or asphaltic concrete as part of a paving operation, including chip seal or sand seal.

(3) **"Obscurants"** means fog oil released into the atmosphere during military exercises which produces a smoke screen designed to eliminate the detection of persons or objects by visual or electronic means of observation within a localized area.

(4) **"Observer"** means a certified human observer or a certified, calibrated opacity monitoring system.

(5) **"Pavement Rehabilitation Equipment"** means equipment used to resurface or refinish an existing paved surface, such as asphalt pavement heaters, asphalt grinders, planers, profilers.

(6) **"Single Source"** means individual unit of equipment or operations at a given location, including any associated outlets to the atmosphere, which may be operated simultaneously.

(7) **"Rubber Modified Spray Applied Asphalt"** means rubber modified asphaltic cement, including, but not limited to rubber modified asphaltic cement containing polymers or asphalt rubber binders, applied with an application temperature specification of 320^{o}F or higher, or encompassing a temperature range including 320^{o}F or higher, in a thin layer to a road surface.

(d) **STANDARDS**

(1) Except as otherwise provided in Section (b) above and subsections below, a person shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.

(2) A person shall not discharge into the atmosphere from any asphalt plant drop zone any contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is as dark or darker in shade than that designated as Number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 2 on the Ringelmann Chart.

(3) A person shall not discharge into the atmosphere from any diesel pile driving hammer any contaminant for a period or periods aggregating more than four minutes during the driving of a single pile which is as dark or darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer’s view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.

(4) A person shall not discharge into the atmosphere from any diesel pile driving hammer which uses kerosene fuel, smoke suppressing fuel additives, and synthetic lubricating oil any contaminant for a period or periods aggregating more than four minutes during the driving of a single pile which is as dark or darker in shade than that designated as Number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 2 on the Ringelmann Chart.

(5) A person shall not discharge into the atmosphere from any asphalt paving equipment with an application temperature specification of 320°F or higher, or encompassing a temperature range including 320°F or higher, or pavement rehabilitation equipment, any emissions whatsoever of air contaminants for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 2 on the Ringelmann Chart. This provision does not apply to portable rubber modified spray applied asphalt cement equipment.

(6) A person shall not discharge into the atmosphere from the operation, maintenance or testing of fire fighting training units used exclusively for the purpose of shipboard fire fighting training, from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 2 on the Ringelmann Chart.

RULE 55 FUGITIVE DUST CONTROL
(Adopted June 24, 2009; Effective December 24, 2009)

(a) APPLICABILITY

Except as provided in Section (b), the provisions of this rule shall apply to any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas. Activities subject to this regulation are also subject to the applicable requirements of Rule 50 (Visible Emissions) and Rule 51 (Nuisance).

(b) EXEMPTIONS

The provisions of this rule shall not apply to the following:

(1) Noncommercial construction or demolition activities in support of any structure designed for and used exclusively as a dwelling for not more than four families;

(2) Emergency operations conducted during and in response to life-threatening situations, or in conjunction with any officially declared disaster or state of emergency;

(3) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and/or sewer during periods of unplanned service outages and emergency disruptions;

(4) Any active operation, open storage pile, or inactive disturbed area for which the owner/operator can demonstrate that necessary fugitive dust preventive or mitigating actions are in conflict with the California or federal Endangered Species Acts, or a local, state, or federal water quality requirement;

(5) Explosive blasting operations. However, any other activities capable of generating fugitive dust emissions and performed in conjunction with explosive blasting, such as vehicle transport of materials produced by blasting operations, are not exempt from complying with the provisions of this rule or other applicable rules;

(6) Abrasive blasting operations regulated by Rule 71 (Abrasive Blasting);

(7) Activities subject to an Air Pollution Control District permit to operate;

(8) Permanent unpaved roads.

(c) DEFINITIONS

For the purpose of this rule, the following definitions shall apply:

(1) **"Active Operation"** means any construction or demolition activity capable of generating fugitive dust. This includes but is not limited to, earth-moving activities, and heavy- and light-duty vehicular movement on disturbed surface areas or on unpaved roads.

(2) **"Bulk Materials"** means any material which can emit fugitive dust when stored, disturbed, or handled, and is un-packaged. Bulk material includes, but is not limited to, sand, gravel, soil, aggregate material, and other organic or inorganic particulate matter.

(3) **"Commercial"** means work conducted for financial compensation by other than a tenant or property owner.

(4) **"Construction or Demolition Activity"** means any on-site activity preparatory to or for the purpose of building, altering, rehabilitating, raising, tearing down, breaking into pieces, or improving property, including, but not limited to, the following activities: grading, excavation, loading, transporting, crushing, cutting, planing, shaping or ground breaking.

(5) **"Dust"** means minute solid particles released into the air by natural forces or by mechanical processes including, but not limited to: crushing, grinding, milling, drilling, demolishing, shoveling, conveying, covering, bagging, and sweeping.

(6) **"Earth-moving Activities"** means activities that include, but are not limited to, grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing bulk materials from open storage piles, or soil mulching.

(7) **"Emergency"** means an immediate threat to human health or property.

(8) "**Erosion**" means the movement and deposition of land surface materials by water or wind primarily as a result of human activities.

(9) **"Inactive Disturbed Area"** means a portion of the earth's surface that has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emissions of fugitive dust. This definition excludes those areas that have:

(i) Been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(ii) Been paved or otherwise covered by a permanent structure; or

(iii) Established a vegetative ground cover equivalent to at least 70% percent of the background coverage for nearby undisturbed areas.

(10) **"Open Storage Pile"** means any accumulation of bulk material with five percent or greater silt content which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more

square feet. Silt content level is assumed to be five percent or greater unless a person can show, by sampling and analysis in accordance with ASTM Method C-136 or other equivalent method approved in writing by the California Air Resources Board, that the silt content is less than five percent.

(11) "**Owner/operator"** means any person who owns, leases, operates, controls, or supervises any activity subject to this rule or any person who owns, leases, operates, controls, or supervises the site at which any activity subject to this rule occurs, or both.

(12) **"Particulate Matter"** means any finely divided material which exists as a solid or liquid at standard conditions, excluding uncombined water.

(13) **"Paved Road"** means an improved street, highway, alley, public way, or easement that is covered by concrete, asphaltic concrete, fresh or recycled asphalt, or rubberized asphalt, excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic.

(14) "**Permanent Unpaved Road**" means any unsealed or dirt roadway that is not covered by concrete, asphaltic concrete, fresh or recycled asphalt, or rubberized asphalt, and which is designed and intended to remain unsealed and uncovered indefinitely. This definition excludes public or private roads undergoing construction or resurfacing.

(15) "**Person"** means any individual, firm, association, organization, partnership, business trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local government agency or public district and any officer or employee thereof, or the federal government and any officers or employees thereof to the extent authorized by federal law, or any other entity whatsoever which is recognized by law as the subject of rights and duties.

(16) **"Property Line"** means the boundaries of an area in which either a person causing the fugitive dust emissions or a person allowing such emissions has the legal control or possession. This may include all or portions of a legal parcel or parcels as defined by the San Diego County Assessor.

(17) **"Track-Out/Carry-Out"** means any bulk materials that adhere to and agglomerate on the exterior surfaces of motor vehicles and/or equipment (including tires), or are inadvertently carried out, and that fall onto a paved road, creating visible roadway dust.

(18) **"Visible Dust Emissions"** means any solid particulate matter that is visually detectable in the air without the aid of instruments other than corrective lenses.

(19) **"Visible Roadway Dust"** means any sand, soil, dirt, or other solid particulate matter which is visible upon paved public road surfaces and which can be removed by a vacuum sweeper, or a wet sweeper under normal operating conditions.

(d) **STANDARDS**

(1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period.

(2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

(i) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and

(ii) be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM10-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

RULE 50.1. NSPS AND NESHAPS VISIBLE EMISSIONS REQUIREMENTS (Effective 11/8/76)

A person owning or operating any source subject to the provisions of any federal New Source Performance Standard (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAPS) which has been delegated to the Air Pollution Control District of San Diego County must, in addition to complying with Rule 50, comply with Regulation X or Regulation XI, respectively.

RULE 51. NUISANCE

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals.

REGULATION XII. TOXIC AIR CONTAMINANTS

RULE 1200. TOXIC AIR CONTAMINANTS - NEW SOURCE REVIEW

(Adopted & Effective 6/12/96)
(Tables I, II, III-Toxic Air Contaminants: Rev. Effective 7/11/17)
(Table II-Toxic Air Contaminants: Rev. Effective 7/19/18)
(Table I-Toxic Air Contaminants: Rev. Effective 5/29/19)

(a) **APPLICABILITY**

Except as provided in Section (b) of this rule, this rule applies to any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminant(s) and for which an Authority to Construct or Permit to Operate is required pursuant to Rule 10, or for which a Notice of Intention or Application for Certification has been accepted by the California Energy Commission. An Application for Certification shall be considered equivalent to an application for an Authority to Construct. Compliance with this rule does not relieve a person from having to comply with other applicable requirements in these rules and regulations, or state and federal law.

(b) **EXEMPTIONS**

(1) The standards of Section (d) shall not apply to:

(i) The modification of an emission unit made exclusively to comply with the Maximum Achievable Control Technology (MACT) requirements adopted pursuant to either Section 111 or 112 of the Federal Clean Air Act or to comply with requirements of these rules and regulations adopted to implement federal MACT requirements.

(ii) The modification of an emission unit made exclusively to comply with a state Air Toxic Control Measure (ATCM) required by Division 26, Part 2, Chapter 3.5 of the California Health and Safety Code (AB 1807 program) or to comply with a requirement of these rules and regulations adopted to implement state ATCM requirements.

(iii)An existing emission unit requiring a permit solely because of changes to Rule 11 of these rules and regulations provided the application for permit is submitted within one-year after the applicable change to Rule 11 is adopted.

(iv) The modification of an emission unit made exclusively to implement a District approved risk reduction plan required by Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 program) or to comply with a requirement of these rules and regulations adopted to implement state SB 1731 program requirements.

(v) The following emission units provided the resulting increase in maximum incremental cancer risk at every receptor location is less than 100 in one million, the total acute noncancer health hazard index is less than 10 and the total chronic noncancer health hazard index is less than 10:

(A) Dry cleaning emission units, provided that Toxics Best Available Control Technology (T-BACT) will be installed.

(B) Gasoline service station emission units, provided that T-BACT will be installed.

(C) Asphalt roofing kettles and tanks.

(D) Automotive refinishing operations not using chrome or lead pigmented coatings.

(E) Emission units used for wood product stripping operations, provided that T-BACT will be installed.

(2) The standards of Subsections (d)(1) and (d)(3) shall not apply to the modification of an emission unit made exclusively to comply with a requirement of these rules and regulations, but not including Rule 1200. The Air Pollution Control Officer may determine for good cause, on a case-by-case basis, that this exemption does not apply to a modified emission unit. In the event such a determination is made, written notice shall be provided by the Air Pollution Control Officer to the project applicant as soon as possible and before the application is deemed complete pursuant to Rule 18. This notice shall state the specific reason why the Air Pollution Control Officer has determined that this exemption does not apply and shall specify what additional requirements the project applicant must meet.

(c) **DEFINITIONS**

(1) "**Air Toxic Control Measure (ATCM)**" means a requirement to reduce emissions of one or more toxic air contaminants developed pursuant to Division 26, Part 2, Chapter 3.5 of the California Health and Safety Code (AB 1807 program).

(2) "**Cancer Burden**" means the estimated potential increase in the occurrence of cancer cases in a population subject to an incremental cancer risk of greater than one in one million resulting from exposure to toxic air contaminants. It shall be calculated pursuant to Section (e).

(3) "**Concurrent Emission Reductions**" means permanent, quantifiable, enforceable, and surplus emission reductions occurring at the same stationary source and within the six months prior to or at the same time as the commencement of operations of new or modified emission units constituting a project. Emission reductions resulting from the shutdown of an emission unit are eligible to be concurrent emission reductions. Concurrent emission reductions shall be calculated pursuant to Section (e).

Notwithstanding the definition of "Surplus," emission reductions required by Section 111 or 112 (MACT) of the federal Clean Air Act, or Division 26, Part 2, Chapter 3.5 (ATCM) of the California Health and Safety Code may be used as concurrent emission reductions if they occur before they are required by the applicable MACT or ATCM. However, their use as concurrent emission reductions shall expire on the date the reductions required by the applicable MACT or ATCM are actually required to take place. The Permit to Operate for any emission unit which has used such an emission reduction to satisfy in whole or in part the requirements of this rule, shall expire and become null and void on the date that the reductions required by the applicable MACT or ATCM are actually required to take place, unless additional concurrent emission reductions are provided in an amount necessary to satisfy the requirements of this rule.

(4) "**Contiguous Property**" means the same as defined in Rule 2 of these Rules and Regulations.

(5) "**Emission Unit**" means any article, machine, equipment, contrivance, process or process line which emits or may emit one or more toxic air contaminants.

(6) "**Enforceable**" means can be enforced by the District through inclusion of conditions on a valid and current permit.

(7) "**Future Potentially Feasible Cancer Risk Reduction Measure**" means control measures and techniques that are in excess of T-BACT and are expected to be technologically feasible and economically practicable in the future. They include, but are not limited to, pollution prevention measures such as product substitution or modification, process modification, feedstock modification, operational and maintenance improvements; changes in basic control equipment; and enclosing systems or processes to reduce emissions. Future potentially feasible cancer risk reduction measures are different from T-BACT in that they apply to existing permit units. Future potentially feasible cancer risk reduction measures are determined on a case-by-case basis.

(8) "**Maximum Achievable Control Technology (MACT)**" means emission controls or limitations included in any Section 112 requirement of the federal Clean Air Act, including any implementing regulations of the U.S. Environmental Protection Agency, for any source class or category.

(9) "**Maximum Incremental Cancer Risk**" **(MICR)** means the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminant(s). It shall be calculated pursuant to Section (e) and using net emission increases from the project or emission unit.

(10) "**Modified Emission Unit**" means an emission unit which undergoes any physical or operational change which results or may result in an increase in an emission unit's toxic air contaminant potential to emit, including toxic air contaminants not previously emitted. An emission unit which undergoes the following shall not be considered a modified emission unit, provided such change is not contrary to any permit condition, and the change does not result in an increase in the toxic air contaminant potential to emit of any toxic air contaminant:

(i) The movement of a portable emission unit from one stationary source to another.

(ii) Repair or routine maintenance.

(iii) An increase in the hours of operation.

(iv) Use of alternate fuel or raw material.

(11) "**Permanent**" means enforceable and which will exist for the life of the project or emission unit, as may be limited by enforceable permit conditions.

(12) "**Post-Project Potential To Emit**" means a project's or emission unit's potential to emit after issuance of an Authority to Construct for the proposed project or emission unit, calculated pursuant to Section (e).

(13) "**Potential to Emit**" means the maximum quantity of toxic air contaminant emissions, including fugitive emissions, that a project or emission unit is capable of emitting considering emission control equipment and calculated pursuant to Section (e).

(14) "**Pre-Project Potential To Emit**" means a project's or emission unit's potential to emit prior to issuance of an Authority to Construct for the proposed project or emission unit, calculated pursuant to Section (e).

(15) "**Project**" means an emission unit or aggregation of emission units located at a stationary source for which an application or combination of applications for Authority to Construct or modified Permit to Operate are under District review. It includes any emission unit(s) modified to provide concurrent emission reductions.

(16) "**Quantifiable**" means that a reliable basis for calculating the amount, rate, nature and characteristics of an emission change can be established, as determined by the Air Pollution Control Officer.

(17) "**Receptor Location**" means any location beyond the project's or emission unit's stationary source boundaries where the Air Pollution Control Officer has determined exposure to the project's or emission unit's (not including any emission unit modified to provide concurrent emission reductions) emissions could reasonably occur.

(18) "**Relocated**" means moved within San Diego County from one stationary source to another stationary source.

(19) "**Stationary Source**" means the same as defined in Rule 2 of these Rules and Regulations.

(20) "**Surplus**" means in excess of any emission reductions which are required by this rule, or which are required by or which the Air Pollution Control Officer reasonably expects will be required by Section 111 or 112 (MACT) of the federal Clean Air Act, or Division 26, Part 2, Chapter 3.5 (ATCM) of the California Health and Safety Code.

Emission reductions used as concurrent emission reductions as part of a project or emission unit subject to the requirements of this rule which occur before the Air Pollution Control Officer reasonably expects they will be required by Section 111 or 112 (MACT) of the federal Clean Air Act, or Division 26, Part 2, Chapter 3.5 (ATCM) of the California Health and Safety Code shall be deemed to be permanently surplus. Emission reductions occurring before December 12, 1995 are not surplus.

Emission reductions associated with Section 111 or 112 (MACT) of the federal Clean Air Act, or Division 26, Part 2, Chapter 3.5 (ATCM) of the California Health and Safety Code and which have been publicly noticed to be required by the federal Environmental Protection Agency (EPA) or the California Air Resources Board (ARB), as applicable, may be deemed to be reasonably expected to occur by the Air Pollution Control Officer. If subsequent public notice is given by such agency that such emission reductions will not be required, such emission reductions shall be deemed to be surplus.

(21) "**Total Acute Noncancer Health Hazard Index**" means the estimated potential risk of acute public health effects and is the sum of the individual substance acute health hazard indexes affecting the same target organ system for a potential maximally exposed individual for all toxic air contaminants identified in Table III. It shall be calculated using net emission increases from the project or emission unit. It shall be calculated pursuant to Section (e).

(22) "**Total Chronic Noncancer Health Hazard Index**" means the estimated potential risk of chronic public health effects and is the sum of the individual substance chronic health hazard indexes affecting the same target organ system for a potential maximally exposed individual for all toxic air contaminants identified in Table II. It shall be calculated using net emission increases from the project or emission unit. It shall be calculated pursuant to Section (e).

(23) "**Toxic Air Contaminant (TAC)**" means the air contaminants listed in Table I (carcinogenic), Table II (noncarcinogenic - chronic) or Table III (noncarcinogenic - acute) which have a health standard, approved by the state Office of Environmental Health Hazard Assessment (OEHHA) and listed in the California Air Pollution Control Officers Association (CAPCOA) Air Toxics Hot Spots Program Risk Assessment Guidelines, October, 1993 or listed in any health risk assessment guidelines adopted by OEHHA, pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 procedures), that replaces all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October, 1993.

The Air Pollution Control Officer may revise Tables I, II, or III upon OEHHA adoption of revised CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines or upon OEHHA adoption of any health risk assessment guidelines or revisions pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 procedures), that replace all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October, 1993, or with the concurrence of OEHHA and 30 days after public notice of the proposed changes is published in a newspaper of general circulation. A member of the public may petition the Air Pollution Control Officer to add air contaminants to these tables.

(24) "**Toxics Best Available Control Technology (T-BACT)**" means the most effective emission limitation or emission control device or control technique which:

(i) has been achieved in practice for that source or category of source; or

(ii) is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment and implementation of pollution prevention measures, found by the Air Pollution Control Officer to be technologically feasible for that source or category of source, or for a specific source. If there is an applicable MACT standard, the Air Pollution Control Officer shall evaluate it for equivalency with T-BACT.

(d) **STANDARDS**

The Air Pollution Control Officer shall deny an Authority to Construct or Permit to Operate for any new, relocated, or modified emission unit increasing emissions of one or more toxic air contaminants listed in Tables I, II, or III unless all of the following requirements are met:

(1) Cancer Risk

(i) T-BACT Not Applied. The increase in maximum incremental cancer risk at every receptor location is equal to or less than one in one million for any project for which new, relocated, or modified emission units that increases maximum incremental cancer risk are not equipped with T-BACT; and

(ii) T-BACT Applied. Except as provided in (d)(1)(iii), the increase in maximum incremental cancer risk at every receptor location is equal to or less than 10 in one million for any project for which all new, relocated, or modified emission units that increases maximum incremental cancer risk are equipped with T-BACT.

(iii) Maximum Incremental Cancer Risk Greater Than 10 in One Million. The Air Pollution Control Officer may grant an Authority to Construct and/or Permit to Operate for a new, relocated, or modified emission unit with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in one million but less than 100 in one million provided all of the following conditions are met:

(A) All new, relocated, or modified emission unit(s) associated with the project that increase maximum incremental cancer risk by more than one in one million are equipped with T-BACT.

(B) The Air Pollution Control Officer prepares a report in support of approving an Authority to Construct for the project. The following information shall be included in the report and shall be provided by the project applicant in report format to the satisfaction of the Air Pollution Control Officer:

(1) Identification of the toxic air contaminants that would be emitted.

(2) Identification of the cancer and noncancer (chronic and acute) health impacts of the toxic air contaminants that would be emitted.

(3) A discussion of any uncertainty associated with the risk assessment that the applicant believes is noteworthy.

(4) A discussion of the benefits associated with the new or modified project (any emission unit modified to provide concurrent emission reductions need not be included).

(5) A discussion of any local, state or federal mandates requiring the new or modified project (any emission unit modified to provide concurrent emission reductions need not be included).

(6) Identification of project impacts on environmental media other than air.

(7) Identification of all sensitive receptors impacted by the new or modified project (any emission unit modified to provide concurrent emission reductions need not be included).

(8) A discussion of how the stationary source will comply with all applicable MACT and ATCM requirements at the time of Authority to Construct issuance.

(9) A demonstration that the cancer burden as a result of the project will not exceed 1.0.

(10) A cancer risk reduction plan for the project (any emission unit modified to provide concurrent emission reductions need not be included) to include the following information:

(i) Identification of the processes and activities causing the toxic air contaminant emissions from the project and what portion of the total project risk is due to each.

(ii) Identification of all future potentially feasible cancer risk reduction measures for the project type.

(iii) An estimate of the risk reduction potential of all future potentially feasible cancer risk reduction measures.

(iv) An estimate of how long it would take to implement all future potentially feasible cancer risk reduction measures.

(v) A determination of the technical feasibility and cost-effectiveness to implement all future potentially feasible cancer risk reduction measures.

(vi) Identification of and a commitment to implement future potentially feasible cancer risk reduction measures for the project to reduce the maximum incremental cancer risk increase from the project to 10 in one million or less, and a detailed schedule for implementation.

(11) A discussion of how each requirement of Subsections (d)(1)(iii), (d)(2), and (d)(3) will be met.

The report required by this Subsection shall be available in draft form for public review at the Air Pollution Control District and at a minimum of one public library (to be determined by the Air Pollution Control Officer) near affected persons for the 30 days required by Subsection (d)(1)(iii)(J) before it is finalized.

(C) The Air Pollution Control Officer will include in any Authority to Construct that is issued for the project a condition(s) requiring implementation of the future potentially feasible cancer risk reduction measures the project applicant committed to implement pursuant to the requirement of Subsection (d)(1)(iii) (B)(10)(vi).

(D) If the project is a modification of an existing stationary source emitting one or more toxic air contaminant(s), T-BACT shall be installed on all permitted emission units at the stationary source that have a maximum incremental cancer risk impact of greater than 10 in one million at any receptor location where the increase in maximum incremental cancer risk as a result of the project is greater than 10 in one million. The Air Pollution Control Officer shall not consider emission units modified to comply with this requirement as part of the project unless specifically requested to do so by the project applicant. Emissions and risk impact data to be used for such impact determinations from non-project emission units shall be from the District

program to implement Section 44362 of Division 26 (AB 2588) of the California Health and Safety Code, as such data exists on the date a complete permit application for the project is filed with the District, unless the Air Pollution Control Officer approves the use of other emissions and risk impact data as being more representative.

(E) If the increase in maximum incremental cancer risk as a result of the project is greater than 50 in one million at any receptor location,

(1) all available cancer risk reductions shall be provided from permitted emission units:

(i) located at stationary sources other than the stationary source where the project is located or will be located (e.g. off-site emission reductions), and

(ii) which have a maximum incremental cancer risk impact of greater than 10 in one million at any receptor location where the maximum incremental cancer risk impact as a result of the project is greater than 10 in one million;

or,

(2) cancer risk reductions shall be provided until the increase in maximum incremental cancer risk from the project at all receptor locations is equal to or less than 10 in one million.

Emissions and risk impact data to be used for such impact determinations shall be from the District program to implement Section 44362 of Division 26 (AB 2588) of the California Health and Safety Code, as such data exists on the date a complete permit application for the project is filed with the District, unless the Air Pollution Control Officer approves the use of other emissions and risk impact data as being more representative.

Cancer risk reductions from any single emission unit required by this Subsection (d)(1)(iii)(E) shall not be required if the project applicant demonstrates to the satisfaction of the Air Pollution Control Officer that the annualized cost of such cancer risk reduction (from such single emission unit) per unit of maximum incremental cancer risk reduced is greater than 1.25 times the annualized cost per unit of maximum incremental cancer risk reduced by T-BACT for the project (not including any emission unit modified to provide concurrent emission reductions).

All emission reductions provided pursuant to this subsection shall be enforceable, permanent, and quantifiable. The stationary source operator shall demonstrate to the satisfaction of the Air Pollution Control Officer that the requirements of this subsection have been met. If emission reductions from permitted units are provided such that the resulting maximum incremental cancer risk from the project at all receptor locations within the project impact area is equal to or less than 10 in one million, the requirements of Subsections (d)(1)(iii)(B), (D), (F), (I), and (J) shall not apply.

(F) The stationary source operator will prepare an annual report on risk reduction methods, including pollution prevention, available for reducing the resulting project (not including any emission unit modified to provide concurrent emission reductions) maximum incremental cancer risk for affected emission units to less than or equal to 10 in one million. Such report shall meet the same requirements as established for the District's program to implement Division 26, Part 6, Chapter 6 (SB 1731 risk reduction program) of the California Health and Safety Code. The stationary source operator shall implement the approved risk reduction methods within one year from the date of approval by the District.

(G) The stationary source is in compliance with all applicable MACT and ATCM requirements at the time of Authority to Construct issuance.

(H) The cancer burden as a result of the project is equal to or less than 1.0.

(I) The stationary source operator will notify affected persons of the project and, after providing a minimum 30 day notice, hold a public meeting (in the area affected by the project) to discuss the project. Notification shall be in writing and shall meet the same requirements as established for District notification procedures to implement Section 44362 of Division 26 (AB 2588 Air Toxics Hot Spots notification program) of the California Health and Safety Code.

(J) After written notice is provided to affected persons, the Air Pollution Control Officer has provided a 30 day period for the public to submit written comments on the following as they relate to the project:

(1) Does the project meet all applicable federal, state and Air Pollution Control District requirements;

(2) Are there any special considerations in the affected community that warrant disapproval of the project;

(3) Are there alternative processes or control technologies that should be considered;

(4) Are the applicable terms and conditions of the proposed permit enforceable by the Air Pollution Control Officer; and,

(5) Was proper public notice provided regarding the project?

Written notice of the proposed project and comment period shall be prepared by the Air Pollution Control Officer and shall include notice that the draft report required by Subsection (d)(1)(iii)(B) and the Air Pollution Control Officer's analysis of the project are available for public review at the Air Pollution Control District and at a minimum of one specified public library (to be determined by the Air Pollution Control Officer) near the affected persons. The notice shall be provided to affected persons by the stationary source operator at the same time as the notice required by Subsection (d)(1)(iii)(I) is provided to affected persons.

(2) Total Acute Noncancer Health Risk

The increase in the total acute noncancer health hazard index at every receptor location as a result of the project is equal to or less than one unless the Air Pollution Control Officer, after consulting with the state OEHHA, determines that an alternate total acute noncancer health hazard index is sufficiently health protective. In such case, the increase in total acute noncancer health hazard index shall be limited to the alternative total acute noncancer health hazard index at every receptor location.

(3) Total Chronic Noncancer Health Risk

The increase in the total chronic noncancer health hazard index at every receptor location as a result of the project is equal to or less than one unless the Air Pollution Control Officer, after consulting with the state OEHHA, determines that an alternate total chronic noncancer health hazard index is sufficiently health protective. In such case, the increase in total chronic noncancer health hazard index shall be limited to the alternative total chronic noncancer health hazard index at every receptor location.

(e) **PROCEDURES**

(1) Health risk estimates shall be performed for toxic air contaminants listed in Tables I, II, III using corresponding state OEHHA health risk values in effect on the date action on the application(s) is taken. In the event health risk values are added or revised by OEHHA after the application is deemed complete pursuant to Rule 18, the Air Pollution Control Officer shall advise the project applicant in writing as soon as possible thereafter. The project applicant shall make the necessary changes to the health risk estimates to incorporate the new or revised health risk values and submit them to the Air Pollution Control Officer. However, if requested to do so by the project applicant, the Air Pollution Control Officer (in lieu of the project applicant) shall make the necessary changes to the health risk estimates to incorporate the new or revised health risk values.

(2) The Air Pollution Control Officer shall estimate health risk (cancer and non-cancer) and cancer burden in accordance with procedures specified in the CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October, 1993 or specified in any health risk assessment guidelines adopted by the state OEHHA, pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 program), that replace all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October, 1993.

(3) Exposure Periods of Concern

Total chronic noncancer health risk and maximum incremental cancer risk estimates shall be calculated based on the project's or emission unit's emission increase in annual toxic air contaminant potential to emit. Total acute noncancer health risk estimates shall be based on the project's or emission unit's emission increase in toxic air contaminant potential to emit for the exposure period of concern.

(4) Calculation of Emission Increases

Emission increases from a new or relocated project or emission unit shall be calculated as the new project's or emission unit's post project potential to emit. Emission increases from a modified project or emission unit shall be calculated as the project's or emission unit's post project potential to emit minus its pre-project potential to emit.

(5) Calculation of Potential to Emit

Except as provided in (i) and (ii) below, the potential to emit shall be calculated based on the maximum design capacity or other operating conditions which reflect the maximum potential emissions, including fugitive emissions.

(i) Permit Limitations Shall Be Used: If specific limiting conditions contained in an Authority to Construct or Permit to Operate restrict or will restrict emissions to a lower level, these limitations shall be used to calculate the potential to emit.

(ii) Potential to Emit Shall Not Exceed Maximum Potential: If specific conditions limiting a project's or emission unit's pre-project potential to emit are not contained in an Authority to Construct or a Permit to Operate, the pre-project potential to emit shall be limited to the project's or emission unit's actual emissions only to the extent that such emissions do not violate any District, state or federal law, rule, regulation, order or permit condition.

For purposes of this requirement, the Air Pollution Control Officer may allow the pre-project potential to emit to be based on the highest level of actual emissions occurring during a consecutive one-year period within the five-year period preceding the receipt date of the application to the extent that the emission level was not in excess of any District, state or federal law, rule, regulation, order or permit condition.

(6) Calculation of Actual Emissions for Determining Emission Reductions

(i) Actual emissions of an existing emission unit shall be averaged over the most representative two consecutive years within the five years preceding the receipt date of an application, as determined by the Air Pollution Control Officer. Such actual emissions shall not include emissions in excess of any District, state or federal law, rule, regulation, order or permit condition.

(ii) For emission units that have not been operated for a consecutive two-year period, which is representative of actual operations within the five years preceding the receipt date of the application, the calculation of actual emissions shall be based on the average of any two one-year operating periods determined by the Air Pollution Control Officer to be representative within that five-year period. If a representative two-year time period or two one-year time period does not exist, the calculation of actual emissions shall be based on the average of the total operational time period within that five-year period.

(iii) Actual emissions for emission units operated for a period of less than six months shall be based on an average over the longest operating time period determined by the Air Pollution Control Officer to be most representative of actual operations.

(7) When concurrent emission reductions are provided, the resulting reduction in health risk at each evaluated receptor location shall be subtracted from the health risk increase at the same receptor location to provide a net health risk as a result of the project at each such receptor location.

Total chronic noncancer health risk and maximum incremental cancer risk reduction estimates shall be calculated based on the project's or emission unit's annual emission reduction in toxic air contaminants. Total acute noncancer health risk reduction estimates shall be based on the project's or emission unit's emission reduction in toxic air contaminants for the exposure period of concern.

In order for an emission reduction to qualify as a concurrent emission reduction when determining the net acute noncancer health risk as a result of a project or emission unit, the applicant shall demonstrate that there will be a resulting health risk reduction to mitigate emission increases from the project or emission unit for each and every acute time period of concern.

(8) Calculation of Emission Reductions

(i) An actual emission reduction may only be used as a concurrent emission reduction. Actual emissions calculated pursuant to Subsection (e)(6) shall be used for purposes of determining an actual emission reduction in accordance with this Subsection (e)(8). An actual emission reduction must be quantifiable, enforceable and surplus and may be temporary or permanent in duration. A temporary actual emission reduction shall be identified as temporary and shall include a specific date beyond which the reductions are no longer valid.

(A) Actual emission reductions from the shutdown or relocation of an emission unit shall be calculated based on the emission unit's pre-project actual emissions.

(B) Actual emission reductions from a modified project or emission unit shall be calculated as the project's or emission unit's pre-project actual emissions minus the project's or emission unit's post-project potential to emit.

(ii) Adjustment for Determining Actual Emission Reduction: If an emission unit has been permitted and operated for a period of less than two years, the emission unit's actual emissions, for purposes of determining decreases in cancer risk or noncancer chronic risk, shall be calculated as the unit's actual emissions over the actual operating time period times the actual operating time period in days divided by 1460.

(iii) If an emission unit was operated in violation of any District, state or federal law, rule, regulation, order, or permit condition during the period used to determine actual emissions, the actual emissions shall be adjusted to reflect the level of emissions which would have occurred if the emission unit had not been in violation.

(9) When concurrent emission reductions are provided, the project applicant shall apply for and the Air Pollution Control Officer shall approve or deny, as appropriate, an Authority to Construct and a new or modified Permit to Operate with appropriate conditions for the emission unit(s) providing the concurrent emission reductions, or retire a Permit to Operate for the emission unit(s) in the event of a shutdown.

(10) Toxic air contaminant exposure scenarios used to estimate health risk shall be consistent with land use designations at the time the application is deemed complete, except where the project owner has direct control over discretionary uses.

(11) To the extent possible, the Air Pollution Control Officer shall develop screening risk assessment procedures for common equipment and toxic air contaminants to expedite and standardize review for compliance with Section (d). The procedures shall be maintained in writing and available upon request. The Air Pollution Control Officer shall propose additional exemptions to Section (b) that the Air Pollution Control Officer deems appropriate, based on the results of these screening procedures.

Table I

Toxic Air Contaminants For Which Potential Carcinogenic Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Acetaldehyde	75-07-0	6/12/1996
Acetamide	60-35-5	1/11/2001
Acrylamide	79-06-1	6/12/1996
Acrylonitrile	107-13-1	6/12/1996
Allyl chloride	107-05-1	1/11/2001
2-Aminoanthraquinone	117-79-3	1/11/2001
Aniline	62-53-3	1/11/2001
Arsenic (inorganic) and compounds	7440-38-2	6/12/1996
Asbestos	1332-21-4	6/12/1996
Benzene	71-43-2	6/12/1996
Benzidine (and its salts) as follows:	92-87-5	6/12/1996
Benzidine based dyes	1020	6/12/1996
Direct Black 38	1937-37-7	6/12/1996
Direct Blue 6	2602-46-2	6/12/1996
Direct Brown 95 (technical grade)	16071-86-6	6/12/1996
Benzyl chloride	100-44-7	1/11/2001
Beryllium and compounds	7440-41-7	6/12/1996
Bis (2-chloroethyl) ether (Dichloroethyl ether)	111-44-4	1/11/2001
Bis (chloromethyl) ether	542-88-1	1/11/2001
Potassium Bromate	7758-01-2	1/11/2001
1,3-Butadiene	106-99-0	6/12/1996
Cadmium and compounds	7440-43-9	6/12/1996
Carbon tetrachloride (tetrachloromethane)	56-23-5	6/12/1996
Chlorinated Paraffins	108171-26-2	1/11/2001
4-Chloro-o-phenylenediamine	95-83-0	1/11/2001
Chloroform	67-66-3	6/12/1996
Chlorophenols as follows:	N/A	6/12/1996
Pentachlorophenol	87-86-5	6/12/1996
2, 4, 6 - trichlorophenol	88-06-2	6/12/1996
P-chloro-o-toluidine	95-69-2	1/11/2001
Chromium (hexavalent) and compounds including, but not limited to:	18540-29-9	6/12/1996
Barium chromate	10294-40-3	6/12/1996
Calcium chromate	13765-19-0	6/12/1996
Lead chromate	7758-97-6	6/12/1996
Sodium dichromate	10588-01-9	6/12/1996
Strontium chromate	7789-06-2	6/12/1996
Chromium trioxide (as chromic acid mist)	1333-82-0	6/12/1996
P-cresidine	120-71-8	1/11/2001
Cupferron	135-20-6	1/11/2001
2,4-diaminoanisole	615-05-4	1/11/2001
2,4-diaminotoluene	95-80-7	1/11/2001
1,2-dibromo-3-chloropropane (DBCP)	96-12-8	6/12/1996
P-dichlorobenzene	106-46-7	6/12/1996
3,3-dichlorobenzidine	91-94-1	6/12/1996

Table I - continued

Toxic Air Contaminants For Which Potential Carcinogenic Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
1,1-dichloroethane (ethylidene dichloride)	75-34-3	1/11/2001
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	6/12/1996
P-dimethylaminoazobenzene	60-11-7	1/11/2001
2,4-dinitrotoluene	121-14-2	1/11/2001
1,4-dioxane (1,4-diethylene dioxide)	123-91-1	6/12/1996
Epichlorohydrin (1-chloro-2,3-epoxypropane)	106-89-8	6/12/1996
Ethyl benzene	100-41-4	11/14/2007
Ethylene dibromide (1, 2 - dibromoethane)	106-93-4	6/12/1996
Ethylene dichloride (1, 2 – dichloroethane)	107-06-2	6/12/1996
Ethylene oxide (1,2-epoxyethane)	75-21-8	6/12/1996
Ethylene thiourea	96-45-7	1/11/2001
Formaldehyde	50-00-0	6/12/1996
Hexachlorobenzene	118-74-1	6/12/1996
Hexachlorocyclohexanes (mixed or technical grade)	608-73-1	6/12/1996
Alpha - hexachlorocyclohexane	319-84-6	6/12/1996
Beta - hexachlorocyclohexane	319-85-7	6/12/1996
Gamma - hexachlorocyclohexane (Lindane)	58-89-9	6/12/1996
Hydrazine	302-01-2	6/12/1996
Lead (inorganic) and compounds including, but not limited to:	7439-92-1	1/11/2001
Lead acetate	301-04-2	1/11/2001
Lead phosphate	7446-27-7	1/11/2001
Lead subacetate	1335-32-6	1/11/2001
Methyl tertiary-butyl ether	1634-04-4	1/11/2001
4,4'-methylene bis (2-chloroaniline) (MOCA)	101-14-4	1/11/2001
Methylene chloride (dichloromethane)	75-09-2	6/12/1996
4,4'-Methylene dianiline (and its dichloride)	101-77-9	1/11/2001
Michler's Ketone (4,4'-Bis (dimethylamino) benzophenone)	90-94-8	1/11/2001
N-nitrosodi-n-butylamine	924-16-3	6/12/1996
N-nitrosodi-n-propylamine	621-64-7	6/12/1996
N-nitrosodiethylamine	55-18-5	6/12/1996
N-nitrosodimethylamine	62-75-9	6/12/1996
N-nitrosodiphenylamine	86-30-6	1/11/2001
N-nitroso-n-methylethylamine	10595-95-6	6/12/1996
N-nitrosomorpholine	59-89-2	6/12/1996
N-nitrosopiperidine	100-75-4	6/12/1996
N-nitrosopyrrolidine	930-55-2	6/12/1996
Naphthalene	91-20-3	8/03/2004
Nickel and compounds including, but not limited to:	7440-02-0	6/12/1996
Nickel acetate	373-02-4	6/12/1996
Nickel carbonate	3333-67-3	6/12/1996
Nickel carbonyl	13463-39-3	6/12/1996
Nickel hydroxide	12054-48-7	6/12/1996
Nickelocene	1271-28-9	6/12/1996
Nickel oxide	1313-99-1	6/12/1996

Table I – continued

Toxic Air Contaminants For Which Potential Carcinogenic Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Nickel refinery dust from the pyrometallurgical process	1146	6/12/1996
Nickel subsulfide	12035-72-2	6/12/1996
p-Nitrosodiphenylamine	156-10-5	6/12/1996
Particulate emissions from diesel-fueled engines	9901	9/15/2000
Perchloroethylene (tetrachloroethylene)	127-18-4	6/12/1996
Polychlorinated biphenyls (PCBs) unspeciated mixtures	1336-36-3	6/12/1996
Polychlorinated biphenyls (PCBs) speciated as follows:	N/A	
3,3',4,4'-tetrachlorobiphenyl	32598-13-3	8/29/2003
3,4,4',5-tetrachlorobiphenyl	70362-50-4	8/29/2003
2,3,3',4,4'-pentachlorobiphenyl	32598-14-4	8/29/2003
2,3,4,4',5-pentachlorobiphenyl	74472-37-0	8/29/2003
2,3',4,4',5-pentachlorobiphenyl	31508-00-6	8/29/2003
2,3',4,4',5'-pentachlorobiphenyl	65510-44-3	8/29/2003
3,3',4,4',5-pentachlorobiphenyl	57465-28-8	8/29/2003
2,3,3',4,4',5-hexachlorobiphenyl	38380-08-4	8/29/2003
2,3,3',4,4',5'-hexachlorobiphenyl	69782-90-7	8/29/2003
2,3',4,4',5,5'-hexachlorobiphenyl	52663-72-6	8/29/2003
3,3',4,4',5,5'-hexachlorobiphenyl	32774-16-6	8/29/2003
2,3,3',4,4',5,5'-heptachlorobiphenyl	39635-31-9	8/29/2003
Polychlorinated dibenzo-p-dioxins (PCDD) as follows:	1086	6/12/1996
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6	6/12/1996
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4	6/12/1996
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6	6/12/1996
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7	6/12/1996
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3	6/12/1996
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9	6/12/1996
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9	6/12/1996
Polychlorinated dibenzofurans (PCDF) as follows:	1080	6/12/1996
2,3,7,8-tetrachlorodibenzofuran	5120-73-19	6/12/1996
1,2,3,7,8-pentachlorodibenzofuran	57117-41-6	6/12/1996
2,3,4,7,8-pentachlorodibenzofuran	57117-31-4	6/12/1996
1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9	6/12/1996
1,2,3,6,7,8- hexachlorodibenzofuran	57117-44-9	6/12/1996
1,2,3,7,8,9- hexachlorodibenzofuran	72918-21-9	6/12/1996
2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5	6/12/1996
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4	6/12/1996
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7	6/12/1996
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	6/12/1996
Polycyclic Aromatic Hydrocarbon (PAH) as follows:	1151	6/12/1996
Benz[a]anthracene	56-55-3	6/12/1996
Benzo[a]pyrene	50-32-8	6/12/1996
Benzo[b]fluoranthene	205-99-2	6/12/1996
Benzo[j]fluoranthene	205-82-3	6/12/1996
Benzo[k]fluoranthene	207-08-9	6/12/1996
Chrysene	218-01-9	6/12/1996

Table I - continued

Toxic Air Contaminants For Which Potential Carcinogenic Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Dibenz[a,h]acridine	226-36-8	6/12/1996
Dibenz[a,j]acridine	224-42-0	6/12/1996
Dibenz[a,h]anthracene	53-70-3	6/12/1996
Dibenzo[a,e]pyrene	192-65-4	6/12/1996
Dibenzo[a,h]pyrene	189-64-0	6/12/1996
Dibenzo[a,i]pyrene	189-55-9	6/12/1996
Dibenzo[a,l]pyrene	191-30-0	6/12/1996
7h-dibenzo[c,g]carbazole	194-59-2	6/12/1996
7,12-dimethylbenz[a]anthracene	57-97-6	6/12/1996
1,6-dinitropyrene	42397-64-8	6/12/1996
1,8-dinitropyrene	42397-65-9	6/12/1996
Indeno[1,2,3-c,d]pyrene	193-39-5	6/12/1996
3-methylcholanthrene	56-49-5	6/12/1996
5-methylchrysene	3697-24-3	6/12/1996
Naphthalene	91-20-3	8/03/2004
5-nitroacenaphthene	602-87-9	6/12/1996
6-nitrochrysene	7496-02-8	6/12/1996
2-nitrofluorene	607-57-8	6/12/1996
1-nitropyrene	5522-43-0	6/12/1996
4-nitropyrene	57835-92-4	6/12/1996
1,3-propane sultone	1120-71-4	1/11/2001
Propylene oxide	75-56-9	6/12/1996
Tertiary butyl-acetate (TBAc)	540-88-5	5/29/2019
1,1,2,2-tetrachloroethane	79-34-5	1/11/2001
Thioacetamide	62-55-5	6/12/1996
Toluene diisocyanates including, but not limited to:	26471-62-5	1/11/2001
Toluene-2,4-diisocyanate	584-84-9	1/11/2001
Toluene-2,6-diisocyanate	91-08-7	1/11/2001
1,1,2-Trichloroethane (vinyl trichloride)	79-00-5	1/11/2001
Trichlorethylene	79-01-6	6/12/1996
Urethane (ethyl carbamate)	51-79-6	6/12/1996
Vinyl chloride (chloroethylene)	75-01-4	6/12/1996

a. Unit Risk Values shall be obtained from the CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993 or any health risk assessment guidelines adopted by the state Office of Environmental Health Hazard Assessment (OEHHA), pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 program), that replace all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993. Table I was last revised pursuant to Rule 1200(c)(23) and Rule 1210(c)(18) on May 29, 2019.

b. Chemical Abstract Service Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report is listed. For information on the origin and use of the 4-digit code, see the EICG report.

Table II

Toxic Air Contaminants For Which Potential Chronic Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Acetaldehyde	75-07-0	6/12/1996
Acrolein	107-02-8	1/11/2001
Acrylonitrile	107-13-1	6/12/1996
Ammonia	7664-41-7	6/12/1996
Arsenic (inorganic) and compounds including, but not limited to:	7440-38-2	6/12/1996
Arsine	7784-42-1	6/12/1996
Benzene	71-43-2	6/12/1996
Beryllium and compounds	7440-41-7	6/12/1996
1,3-butadiene	106-99-0	1/11/2001
Cadmium and compounds	7440-43-9	6/12/1996
Caprolactam	105-60-2	6/16/2014
Carbon disulfide	75-15-0	1/11/2001
Carbon tetrachloride (tetrachloromethane)	56-23-5	6/12/1996
Carbonyl sulfide	463-58-1	7/11/2017
Chlorine	7782-50-5	6/12/1996
Chlorine dioxide	10049-04-4	1/11/2001
Chlorobenzene	108-90-7	6/12/1996
Chloroform	67-66-3	6/12/1996
Chloropicrin	76-06-2	6/12/1996
Chromium (hexavalent) and compounds including, but not limited to:	18540-29-9	6/12/1996
Barium chromate	10294-40-3	6/12/1996
Calcium chromate	13765-19-0	6/12/1996
Lead chromate	7758-97-6	6/12/1996
Sodium dichromate	10588-01-9	6/12/1996
Strontium chromate	7789-06-2	6/12/1996
Chromium trioxide (as chromic acid mist)	1333-82-0	3/12/2001
Cresols (mixtures of)	1319-77-3	6/12/1996
m-cresol	108-39-4	6/12/1996
o-cresol	95-48-7	6/12/1996
p-cresol	106-44-5	6/12/1996
Cyanide (inorganic)	57-12-5	1/11/2001
Hydrogen cyanide (hydrocyanic acid)	74-90-8	6/12/1996
P – dichlorobenzene (1,4-dichlorobenzene)	106-46-7	6/12/1996
Diethanolamine	111-42-2	1/14/2002
N,n-dimethyl formamide	68-12-2	1/11/2001
1,4-dioxane	123-91-1	6/12/1996
Epichlorohydrin (1-chloro-2,3-epoxypropane)	106-89-8	6/12/1996
1,2-epoxybutane	106-88-7	1/11/2001
Ethyl benzene	100-41-4	1/11/2001
Ethyl chloride	75-00-3	6/12/1996
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	6/12/1996
Ethylene dichloride (1,2-Dichloroethane)	107-06-2	6/12/1996
Ethylene glycol	107-21-1	6/12/1996
Ethylene oxide	75-21-8	6/12/1996

Table II – continued

Toxic Air Contaminants For Which Potential Chronic Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Fluorides and Compounds	1101	1/11/2001
Hydrogen fluoride (hydrofluoric acid)	7664-39-3	6/12/1996
Formaldehyde	50-00-0	6/12/1996
Glutaraldehyde	111-30-8	6/12/1996
Glycol Ethers as follows:	N/A	6/12/1996
Ethylene glycol butyl ether – EGBE	111-76-2	7/19/2018
Ethylene glycol ethyl ether – EGEE	110-80-5	6/12/1996
Ethylene glycol ethyl ether acetate – EGEEA	111-15-9	6/12/1996
Ethylene glycol methyl ether – EGME	109-86-4	6/12/1996
Ethylene glycol methyl ether acetate – EGMEA	110-49-6	6/12/1996
n-Hexane	110-54-3	1/11/2001
Hydrazine	302-01-2	6/12/1996
Hydrochloric acid	7647-01-0	6/12/1996
Hydrogen sulfide	7783-06-4	6/12/1996
Isophorone	78-59-1	1/14/2002
Isopropyl alcohol (Isopropanol)	67-63-0	1/11/2001
Maleic anhydride	108-31-6	6/12/1996
Manganese	7439-96-5	6/12/1996
Mercury (inorganic) and compounds including, but not limited to:	7439-97-6	6/12/1996
Mercuric chloride	7487-94-7	6/12/1996
Methanol	67-56-1	6/12/1996
Methyl bromide (Bromomethane)	74-83-9	6/12/1996
Methyl tert-butyl ether	1634-04-4	1/11/2001
Methyl chloroform (1, 1, 1 – TCA)	71-55-6	6/12/1996
Methyl isocyanate	624-83-9	6/12/1996
Methylene chloride (Dichloromethane)	75-09-2	6/12/1996
4,4'-methylene dianiline (and its dichloride)	101-77-9	6/12/1996
Methylene diphenyl diisocyanate (Polymeric)	101-68-8	6/12/1996
Naphthalene	91-20-3	6/12/1996
Nickel and compounds including, but not limited to:	7440-02-0	6/12/1996
Nickel acetate	373-02-4	6/12/1996
Nickel carbonate	3333-67-3	6/12/1996
Nickel carbonyl	13463-39-3	6/12/1996
Nickel hydroxide	12054-48-7	6/12/1996
Nickelocene	1271-28-9	6/12/1996
Nickel oxide	1313-99-1	6/12/1996
Nickel refinery dust from the pyrometallurgical process	1146	6/12/1996
Nickel subsulfide	12035-72-2	6/12/1996
Particulate emissions from diesel-fueled engines	9901	9/15/2000
Perchloroethylene (Tetrachloroethylene)	127-18-4	6/12/1996
Phenol	108-95-2	6/12/1996
Phosphine	7803-51-2	6/12/1996
Phosphoric acid	7664-38-2	6/12/1996
Phthalic anhydride	85-44-9	6/12/1996

Table II – continued

Toxic Air Contaminants For Which Potential Chronic Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Polychlorinated biphenyls (PCBs) speciated as follows:	N/A	
3,3',4,4'-tetrachlorobiphenyl	32598-13-3	8/29/2003
3,4,4',5-tetrachlorobiphenyl	70362-50-4	8/29/2003
2,3,3',4,4'-pentachlorobiphenyl	32598-14-4	8/29/2003
2,3,4,4',5-pentachlorobiphenyl	74472-37-0	8/29/2003
2,3',4,4',5-pentachlorobiphenyl	31508-00-6	8/29/2003
2,3',4,4',5'-pentachlorobiphenyl	65510-44-3	8/29/2003
3,3',4,4',5-pentachlorobiphenyl	57465-28-8	8/29/2003
2,3,3',4,4',5-hexachlorobiphenyl	38380-08-4	8/29/2003
2,3,3',4,4',5'-hexachlorobiphenyl	69782-90-7	8/29/2003
2,3',4,4',5,5'-hexachlorobiphenyl	52663-72-6	8/29/2003
3,3',4,4',5,5'-hexachlorobiphenyl	32774-16-6	8/29/2003
2,3,3',4,4',5,5'-heptachlorobiphenyl	39635-31-9	8/29/2003
Polychlorinated dibenzo-p-dioxins (PCDD) as follows:	1086	6/12/1996
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	6/12/1996
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	6/12/1996
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	6/12/1996
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	6/12/1996
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	6/12/1996
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	6/12/1996
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	6/12/1996
Polychlorinated dibenzofurans (PCDF) as follows:	1080	6/12/1996
2,3,7,8-Tetrachlorodibenzofuran	5120-73-19	6/12/1996
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	6/12/1996
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	6/12/1996
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	6/12/1996
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	6/12/1996
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	6/12/1996
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	6/12/1996
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	6/12/1996
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	6/12/1996
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	6/12/1996
Propylene (propene)	115-07-1	1/11/2001
Propylene glycol monomethyl ether	107-98-2	6/12/1996
Propylene oxide	75-56-9	6/12/1996
Selenium including, but not limited to:	7782-49-2	6/12/1996
Selenium sulfide	7446-34-6	6/12/1996
Silica (crystalline, respirable)	1175	10/11/2013
Styrene	100-42-5	6/12/1996
Sulfuric acid	7664-93-9	7/11/2017
Sulfur trioxide	7446-71-9	7/11/2017
Toluene	108-88-3	6/12/1996
Toluene diisocyanates	26471-62-5	6/12/1996
Toluene-2,4-diisocyanate	584-84-9	6/12/1996
Toluene-2,6-diisocyanate	91-08-7	6/12/1996
Trichloroethylene	79-01-6	6/12/1996

Table II – continued

Toxic Air Contaminants For Which Potential Chronic Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Triethylamine	121-44-8	1/11/2001
Vinyl acetate	108-05-4	1/11/2001
Vinylidene chloride	75-35-4	6/12/1996
Xylenes (mixed isomers)	1330-20-7	6/12/1996
m-Xylene	108-38-3	6/12/1996
o-Xylene	95-47-6	6/12/1996
p-Xylene	106-42-3	6/12/1996

a. Reference Exposure Levels (RELs) and toxic endpoint information shall be obtained from the CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993 or any health risk assessment guidelines adopted by the state Office of Environmental Health Hazard Assessment (OEHHA), pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 program), that replace all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993. Table II was last revised pursuant to Rule 1200(c)(23) and Rule 1210(c)(18) on July 19, 2018.

b. Chemical Abstract Service Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report is listed. For information on the origin and use of the 4-digit code, see the EICG report.

Table III

Toxic Air Contaminants For Which Potential Acute Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Acetaldehyde	75-07-0	1/28/2009
Acrolein	107-02-8	1/11/2001
Acrylic acid	79-10-7	1/11/2001
Ammonia	7664-41-7	6/12/1996
Arsenic (inorganic) and compounds including, but not limited to:	7440-38-2	6/12/1996
Arsine	7784-42-1	6/12/1996
Benzene	71-43-2	6/12/1996
Benzyl chloride	100-44-7	6/12/1996
1,3-butadiene	106-99-0	10/11/2013
Caprolactam	105-60-2	6/16/2014
Carbon disulfide	75-15-0	1/11/2001
Carbon monoxide	630-08-0	1/11/2001
Carbon tetrachloride (tetrachloromethane)	56-23-5	6/12/1996
Carbonyl sulfide	463-58-1	7/11/2017
Chlorine	7782-50-5	6/12/1996
Chloroform	67-66-3	6/12/1996
Chloropicrin	76-06-2	1/11/2001
Copper and compounds	7440-50-8	6/12/1996
Cyanide (inorganic)	57-12-5	6/12/1996
Hydrogen cyanide (hydrocyanic acid)	74-90-8	6/12/1996
1,4-Dioxane (1,4-diethylene dioxide)	123-91-1	6/12/1996
Epichlorohydrin (1-chloro-2,3-epoxypropane)	106-89-8	1/11/2001
Fluorides and Compounds	1101	6/12/1996
Hydrogen fluoride (hydrofluoric acid)	7664-39-3	6/12/1996
Formaldehyde	50-00-0	6/12/1996
Glycol ethers as follows:	N/A	6/12/1996
Ethylene glycol butyl ether - EGBE	111-76-2	6/12/1996
Ethylene glycol ethyl ether - EGEE	110-80-5	6/12/1996
Ethylene glycol ethyl ether acetate - EGEEA	111-15-9	6/12/1996
Ethylene glycol methyl ether - EGME	109-86-4	6/12/1996
Hydrochloric acid (hydrogen chloride)	7647-01-0	6/12/1996
Hydrogen selenide	7783-07-5	6/12/1996
Hydrogen sulfide	7783-06-4	6/12/1996
Isopropyl alcohol (isopropanol)	67-63-0	1/11/2001
Mercury (inorganic) and compounds including, but not limited to:	7439-97-6	6/12/1996
Mercuric chloride	7487-94-7	6/12/1996
Methanol	67-56-1	1/11/2001
Methyl bromide (bromomethane)	74-83-9	6/12/1996
Methyl chloroform (1,1,1-trichloroethane)	71-55-6	6/12/1996
Methyl ethyl ketone (2-butanone)	78-93-3	1/11/2001
Methylene chloride (dichloromethane)	75-09-2	6/12/1996
Methylene diphenyl diisocyanate (Polymeric)	101-68-8	6/14/2016

Table III - continued

Toxic Air Contaminants For Which Potential Acute Noncancer Impacts Must Be Calculated[a]

COMPOUND	CAS # [b]	Date Added
Nickel and compounds including, but not limited to:	7440-02-0	6/12/1996
Nickel acetate	373-02-4	6/12/1996
Nickel carbonate	3333-67-3	6/12/1996
Nickel carbonyl	13463-39-3	6/12/1996
Nickel hydroxide	12054-48-7	6/12/1996
Nickelocene	1271-28-9	6/12/1996
Nickel oxide	1313-99-1	6/12/1996
Nickel refinery dust from the pyrometallurgical process	1146	6/12/1996
Nickel subsulfide	12035-72-2	6/12/1996
Nitric acid	7697-37-2	1/11/2001
Nitrogen dioxide	10102-44-0	6/12/1996
Ozone	10028-15-6	6/12/1996
Perchloroethylene (tetrachloroethylene)	127-18-4	6/12/1996
Phenol	108-95-2	1/11/2001
Phosgene	75-44-5	6/12/1996
Propylene oxide	75-56-9	6/12/1996
Sodium hydroxide	1310-73-2	6/12/1996
Styrene	100-42-5	1/11/2001
Sulfates	9960	6/12/1996
Sulfur dioxide	7446-09-5	6/12/1996
Sulfuric acid and oleum	N/A	6/12/1996
Sulfuric acid	7664-93-9	6/12/1996
Sulfur trioxide	7446-71-9	6/12/1996
Oleum	8014-95-7	6/12/1996
Toluene	108-88-3	1/11/2001
Toluene diisocyanates	26471-62-5	6/14/2016
Toluene-2,4-diisocyanate	584-84-9	6/14/2016
Toluene-2,6-diisocyanate	91-08-7	6/14/2016
Triethylamine	121-44-8	1/11/2001
Vanadium (fume or dust)	7440-62-2	1/11/2001
Vanadium pentoxide	1314-62-1	1/11/2001
Vinyl chloride (chloroethylene)	75-01-4	1/11/2001
Xylenes (mixed isomers)	1330-20-7	6/12/1996
m-Xylene	108-38-3	6/12/1996
o-Xylene	95-47-6	6/12/1996
p-Xylene	106-42-3	6/12/1996

a. Reference Exposure Levels (RELs) and toxic endpoint information shall be obtained from the CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993 or any health risk assessment guidelines adopted by the state Office of Environmental Health Hazard Assessment (OEHHA), pursuant to Division 26, Part 6, Chapter 6 of the California Health and Safety Code (SB 1731 program), that replace all or part of such CAPCOA Air Toxics Hot Spots Program Risk Assessment Guidelines, October 1993. Table III was last revised pursuant to Rule 1200(c)(23) and Rule 1210(c)(18) on July 11, 2017.

b. Chemical Abstract Service Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report is listed. For information on the origin and use of the 4-digit code, see the EICG report.