1300 BERRYESSA ROAD RV SAFE PARKING ON-SITE HEALTH RISK ASSESSMENT

San José, California

June 15, 2023

Prepared for:

Carolyn Mogollon
Project Manager
David J. Powers & Associates, Inc.
1847 The Alameda. Suite 200
San José, CA. 95126

Prepared by:

Zach Palm
James Reyff
Jordyn Bauer

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project#: 23-078

Introduction

The purpose of this report is to provide the results of a toxic air contaminant (TAC) health risk analysis (HRA) for temporary residential occupation of an undeveloped 2.61-acre lot located at 1300 Berryessa Road in San José, California.

The City intends to allow safe parking sites for permitted recreational vehicles (RV) or other vehicles that would house occupants at the site. Specifically, the project would provide 80 RV parking spaces and 37 car parking spaces on the site. The majority of vehicles are anticipated to be RVs and would be spaced to allow reasonable distance (approximately 10 feet between RVs) to move around vehicles. Parking spaces would also be available for daily on-site case workers, and staff. Amenities provided to support the Safe Parking Project would be temporary. There would be no connections to existing utilities and there would be no ground disturbance. The City would provide the following amenities for the use of the individuals using the site: portable toilets, hand washing stations, a potable water spigot, and trash receptacles. A temporary water tank would be provided by a sanitary servicing company. The City would provide trash collection services. A solar-powered portable office trailer would be provided on-site for use by the staff operating the site.

The Safe Parking Project would operate for an initial period of up to 48 months with the option to be extended for 24 months if the need persists. This assessment assumed users could be on site from 2 to 6 years.

The site is located adjacent to Berryessa Road in a mainly industrialized area. This area includes sources of TACs and fine particulate matter ($PM_{2.5}$) emitted from industrial facilities and nearby roadways. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] Information regarding stationary sources in the area was obtained from BAAQMD. A site visit and traffic counts were conducted to characterize emissions from Berryessa Road, which is the only busy road near the site.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

<u>Air Pollutants of Concern</u>

High ozone concentrations in the air basin are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form ozone concentrations. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern

[1] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, April 2023

inland valleys that are downwind of air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects from diesel exhaust exposure a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015 and incorporated into BAAQMD's current CEQA guidance[2].

Particulate matter is a problematic air pollutant. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter concentrations aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. This project would introduce new sensitive

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

receptors (i.e., residents) to the area. This RV Safe Parking site is anticipated to house residences that could include pregnant woman, infants and small children. The site would operate 24 hours per day, 7 days per week for an initial period of up to 48 months with the option to be extended another 24 months if the need persists. Therefore, occupants were assumed to be exposed to nearby TAC and $PM_{2.5}$ sources continuously on an annual basis. The cancer risk computations assume a 2- to 6-year exposure period, where third-trimester, infant, and small children are most sensitive. Six years is the maximum period the Project is scheduled to operate.

<u>Bay Area Air Quality Management District (BAAQMD)</u>

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[3] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to develop emission reduction activities in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is within a BAAQMD CARE area.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of

[3] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program.

any such census tract.[4] The BAAQMD has identified several overburdened areas within the air district's boundaries. The project site is within an overburdened area as identified by BAAQMD as the Project site is scored at the 80th percentile on CalEnviroScreen.[5]

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.6 Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of TACs and $PM_{2.5}$, emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. The Community Risk Reduction Plan will include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, progress reporting to the public and responsible agencies, and periodic updates of the plan, as appropriate.

[4] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.

[5] OEHAA, CalEnviroScreen 4.0 Maps https://experience.arcgis.com/experience/11d2f52282a54ceebcac7428e6184203/page/CalEnviroScreen-4_0/

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the CEQA Air Quality Guidelines in 2017 and in 2022 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1.[6] Impacts above these thresholds are considered potentially significant. The City of San José uses the BAAQMD CEQA Air Quality Guidelines to consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or health hazard. Policy MS-11.1 implements these thresholds for new sensitive land uses, such as the proposed project.

Table 1. BAAQMD Recommended Project-Level Air Quality Significance Thresholds

Health Risks and Hazards	Single Sources [1]	Combined Sources [1]
Excess Cancer Risk	10 per one million	100 per one million
Hazard Index	1.0	10.0
Incremental annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$
[1]Within 1,000-foot Zone of Influence Note: $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.		

Source: Bay Area Air Quality Management District, 2022

On-site Health Risk Assessment for TAC Sources - New Project Sensitive Residences

The City's General Plan Policy MS-11.1 requires new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs to avoid significant risks to health and safety required when new sensitive uses such as residences (permanent or temporary) are proposed near existing sources of TACs. BAAQMD's recommended thresholds for health risks and hazards are used to evaluate on-site exposure.

This health risk assessment was completed to assess the impact that the existing TAC sources would have on the new proposed sensitive receptors that the project would introduce.[7] Figure 1 shows the on-site sensitive receptors in relation to the nearby TAC sources. All on-site health risk results are listed in Table 1. *Attachment 1* includes the dispersion modeling and risk calculations for TAC source impacts upon the proposed on-site sensitive receptors.

[6] Note that new air quality CEQA Guidelines were posted on BAAQMD's website in April 2023.

[7] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Roadways sources were modeled using available traffic count data. Stationary sources were assessed using data provided by BAAQMD. Six sources were identified within 1,000 feet of the project site using this tool, with all sources being generic sources. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data, screening risk values, and a list of equipment used at two of the sites.[8] Off-road equipment at various nearby industrial facilities were modeled based on estimates of activity obtained from site visits and review of aerial images of the area (e.g., Google Earth).

Local Roadways – Berryessa Road

A refined analysis of potential health impacts from vehicle traffic on Berryessa Road was conducted since the roadways were estimated to have average daily traffic (ADT) exceeding 10,000 vehicles. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadways near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures.

Traffic Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic using the Caltrans version of the CARB EMFAC2021 emissions model, known as CT-EMFAC2021. This model provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic gases (TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear from re-entrained roadway dust were included in these emissions. Inputs to the model include region (Santa Clara County), type of road (major/collector), traffic mix assigned by CT-EMFAC2021 for the county, truck percentage for non-state highways in Santa Clara County (3.51 percent),[9] year of analysis (2024 operational year), and season (annual).

The ADT for Berryessa Road was based on traffic volumes provided by the City of San José's Traffic Volumes GIS website.[10] The calculated ADT on Berryessa Road based on a 1% per year increase from the year of measurement was 24,616 vehicles. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[11] which were then

---

[8] Correspondence with BAAQMD CEQA, May 19, 2023.

[9] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[10] City of San José Traffic Volumes, web: https://csj.maps.arcgis.com/apps/webappviewer/index.html?id=067fbd3db8dd44f8a60f48148331b3d7

[11] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2021 does not include Burden type output with hour by hour traffic volume information.

applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. For all hours of the day an average speed of 40 mph was assumed for all vehicles.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis.[12] TAC and $PM_{2.5}$ emissions from traffic on the roadways within about 1,000 feet of the project site were evaluated with the model. Emissions from vehicle traffic were modeled in AERMOD using a series of volume sources along a line (line volume sources), with line segments used to represent the travel lanes on the roadways. The same meteorological data and off-site sensitive receptors used in the previous project dispersion modeling were used in the roadway modeling. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and heights.

The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the San José Airport prepared for use with the AERMOD model by BAAQMD. The model inputs for sources and receptors assumed a flat area, where changes to terrain were insignificant. Annual DPM and $PM_{2.5}$ concentrations from traffic using year 2024 emission rates were input to the model. DPM and $PM_{2.5}$ concentrations were calculated at a 7-meter grid of receptors that represent the range of on-site exposures at the expected locations of parked RVs. Receptor heights of 5 feet (1.5 meters) were used to represent the breathing height for Safe Parking residences.[13]

<u>Facilities – Plant 181, Granite Rock</u>

Granite Rock, located at 1171 Berryessa Road (across the street from the Project site), manufactures building materials includes a concrete and asphalt batch plant that produces emissions from stationary sources (i.e., equipment permitted by BAAQMD), equipment operation, truck traffic, and fugitive dust. Granite Rock has permits to operate that were issued by BAAQMD (Facility ID 181).

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2021* GIS website,[14] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. BAAQMD provides "fence line" screening risk levels for Granite Rock. Since these levels exceed thresholds, a public records request was made to the District to obtain emissions from each of the sources so that modeling could be performed to more accurately assess the exposure of the Project site to this facility.

---

[12] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012
[13] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en
[14] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3

The District also reports particulate matter emissions that are produced throughout the facility. To assess $PM_{2.5}$ emissions, the PM size profile that BAAQMD provides, which was developed by CARB, was used. The sources were assumed to fall under PM Profile 371, “Mineral Process Loss” with a weight fraction of $PM_{2.5}$ to total particulates of 0.075 percent by weight $PM_{2.5}$. Screening $PM_{2.5}$ concentrations computed using the calculator for fugitive dust exceed single-source thresholds. Therefore, dispersion modeling for this source was conducted using AERMOD (described above for roadway modeling) along with meteorological data and receptors described previously for other sources. Emissions were distributed across an area source reflective of the area where most emissions are produced. Fugitive $PM_{2.5}$ emissions from this area source were modeled to have a near-ground level release height of 2 meters.

Granite Rock operations include the use of diesel-fueled off-road construction equipment. The level of activity is unknown; therefore, an estimate was made. A review of Google Earth aerial images shows the presence of a loader, Bobcat excavator, large forklift, and a roller/tractor. Emissions from this equipment were computed using the California Emissions Estimator Model (CalEEMod), assuming 4 hours of operation from each piece of equipment daily. These emissions were modeled in AERMOD as an area source, similar to how fugitive dust emissions were modeled. The source release height was elevated to 6 meters (18 feet) to reflect the stack heights and buoyancy of the exhaust plume.

Granite Rock generates truck traffic to export and import materials. There is no traffic data available for Granite Rock, so an estimate of truck traffic was made. A 30-minute traffic count was conducted on Wednesday May 31, 2023. During that period, there were 4 trucks entering or exiting. Assuming a 12-hour period, this would be about 100 trucks per day. However, to account for peak hours and uncertainty, this level was increased to 150 trucks per day. Dispersion modeling of these sources was conducted similar to the modeling of off-road equipment.

To account for fugitive dust emissions from on-site traffic, U.S. EPA AP-42 emissions factors were used for industrial sites and an estimate of 1/5-mile on-site travel for each truck. Dispersion modeling of these emissions was conducted similar to the dispersion modeling of stationary source particulate matter emissions.

Facilities - Plant 24249, Bay Area Scavenger & Recycling (BASR) LLC

Bay Area Scavenger & Recycling LLC, a construction and debris recycling facility, adjacent to the Project site. This source includes a shredder or crusher, engines for CRAMBO shredders, and debris stockpiles and concrete bunkers. BAAQMD’s Health Risk Calculator Beta 4.0 was used to predict screening cancer level risks based on the 2023 emissions report provided by BAAQMD. The emissions inventory provided by BAAQMD is based on all particulates, and therefore required modeling. Particulate matter emissions were modeled in a similar manner as performed for Granite Rock.

To assess $PM_{2.5}$ emissions, the PM size profile that BAAQMD provides, which was developed by CARB, was used. The shredder/crusher source was assumed to fall under PM Profile 373, “Rock Crushers” with a weight fraction of $PM_{2.5}$ to total particulates of 0.075 percent by weight $PM_{2.5}$. Screening $PM_{2.5}$ concentrations computed using the calculator for fugitive dust exceed single-source thresholds. Therefore, dispersion modeling for this source was conducted using AERMOD along with meteorological data and receptors described previously for other sources.

Equipment and truck operations at the site were modeled in a manner similar to Granite Rock. Equipment operations were estimated based on review or Google Earth images and the CalEEMod model. A 30-minute traffic count was conducted on Wednesday May 31, 2023. During that period, there were 6 trucks entering or exiting. Assuming a 12-hour period, this would be about 150 trucks per day. However, to account for peak hours and uncertainty, this level was increased to 200 trucks per day.

To account for fugitive dust emissions from on-site traffic, U.S. EPA AP-42 emissions factors were used for industrial sites and an estimate of 1/5-mile on-site travel for each truck. Dispersion modeling of these emissions were conducted similar to the dispersion modeling of stationary source particulate matter emissions.

BASR operations include the use of diesel-fueled off-road construction equipment. The level of activity is unknown; therefore, an estimate was made. A review of Google Earth aerial images shows the presence of two loaders and two Bobcat excavators. Emissions from this equipment were computed using the California Emissions Estimator Model (CalEEMod), assuming 4 hours of operation from each piece of equipment on a daily basis. These emissions were modeled in AERMOD as an area source, similar to how fugitive dust emissions were modeled. The source release height was elevated to 6 meters (18 feet) to reflect the stack heights and buoyancy of the exhaust plume.

<u>Additional Nearby Facilities</u>

- Plant 14638, Clean Harbors San José LLC, is a waste management facility. Screening risks provided by BAAQMD were used with the Distance Adjustment Multiplier Tool for Generic Sources to account for the distance between source and receptor. Clean Harbors is located at 1021 Berryessa Road which is approximately 660 feet northwest of the project site. Adjustments to the screening risk values were made based on this distance from Clean Harbors to the project site.

- Plant 15727, California Waste Solutions, is a recycling facility. Screening risks provided by BAAQMD were used with the Distance Adjustment Multiplier Tool for Generic Sources to account for the distance between source and receptor. California Waste Solutions is located at 1005 Timothy Drive which is adjacent to the project site's southeastern border. A satellite view of the site confirms that the shortest distance between project site receptors and the closest stack of material (a potential particulate emissions source) at California Waste Solutions is approximately 70 feet. Adjustments to the screening risk values were made based on this distance from California Waste Solutions to the project site.

- Plant 16022, Johnson Matthey, Inc., is a Powder Metallurgy Part Manufacturing facility. Screening risks provided by BAAQMD were used with the Distance Adjustment Multiplier Tool for Generic Sources to account for the distance between source and receptor. Johnson

Matthey is located at 1070 Commercial Street which is over 1,000 feet away from the project site to the northwest. Adjustments to the screening risk values were made based on this distance from Johnson Matthey to the project site.

- Plant 24000, Pick N Pull Auto Dismantlers., is a used motor vehicle parts merchant wholesaler. Screening risks provided by BAAQMD were used with the Distance Adjustment Multiplier Tool for Generic Sources to account for the distance between source and receptor. Pick N Pull Auto Dismantlers is located at 1065 Commercial Street which is approximately 805 feet northwest of the project site. Adjustments to the screening risk values were made based on this distance from Pick N Pull Auto Dismantlers to the project site.

Summary of Health Risks at the Project Site

Health risk impacts from the existing and TAC sources upon the project site are reported in Table 1. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. The risks from all the sources are then combined and compared against the BAAQMD cumulative-source threshold. As shown, Bay Area Scavenger & Recycling exceeds the BAAQMD annual $PM_{2.5}$ concentration single-source threshold. None of the other single-source thresholds are exceeded. Further, none of the combined risk values exceed the BAAQMD cumulative-source thresholds.

Table 1. Impacts from Combined Sources to Project Site Receptors

Source	Cancer Risk (per million) 6-year infant-child exposure	Cancer Risk (per million) 6-year adult exposure	Cancer Risk (per million) 2-year infant exposure	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Berryessa Road, ADT 24,616	1.42	0.22	1.09	0.17	<0.01
Granite Rock (Facility ID # 181, Brick, Stone, and Related Construction Material Merchant Wholesalers), MEI at 210 feet	5.19	0.20	3.98	0.13	<0.01
Clean Harbors San José LLC (Facility ID #14638, Landscape Architectural Services), MEI at 660 feet	<0.01	<0.01	<0.01	<0.01	<0.01
California Waste Solutions (Facility ID #15727, Recyclable Material Merchant Wholesalers) MEI at 20 feet	<0.01	<0.01	<0.01	0.18	<0.01
Johnson Matthey Inc (Facility ID #16022, Powder Metallurgy Part Manufacturing), MEI at over 1,000 feet	<0.01	<0.01	<0.01	<0.01	<0.01
Pick N Pull Auto Dismantlers (Facility ID #24000, Motor Vehicle Parts (Used) Merchant Wholesalers), MEI at 805 feet	0.01	0.01	0.01	<0.01	<0.01
Bay Area Scavenger & Recycling LLC (Facility ID #24249, Other Nonhazardous Waste Treatment and Disposal), MEI at 5 feet[1]	7.62	3.63	6.65	**0.32**	0.14
BAAQMD Single-Source Threshold		***10***		***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*	***Yes***	*No*
Cumulative Total	11.80[3]	3.79[3]	9.86[3]	<0.65[2]	<0.20
BAAQMD Cumulative Source Threshold		***100***		***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*	*No*	*No*

[1] Cancer risk values shown include a 3.47 per million screening value not adjusted for age or exposure duration.
[2] Total value shown is value from location of maximum modeled PM concentration plus screening values.
[3] Total value shown is value from location of maximum modeled DPM concentration plus screening values not adjusted for age or exposure duration.

Figure 1. Locations of Project Site, On-Site Residential Receptors, Roadway Models, Stationary Sources, and Maximum TAC Impacts

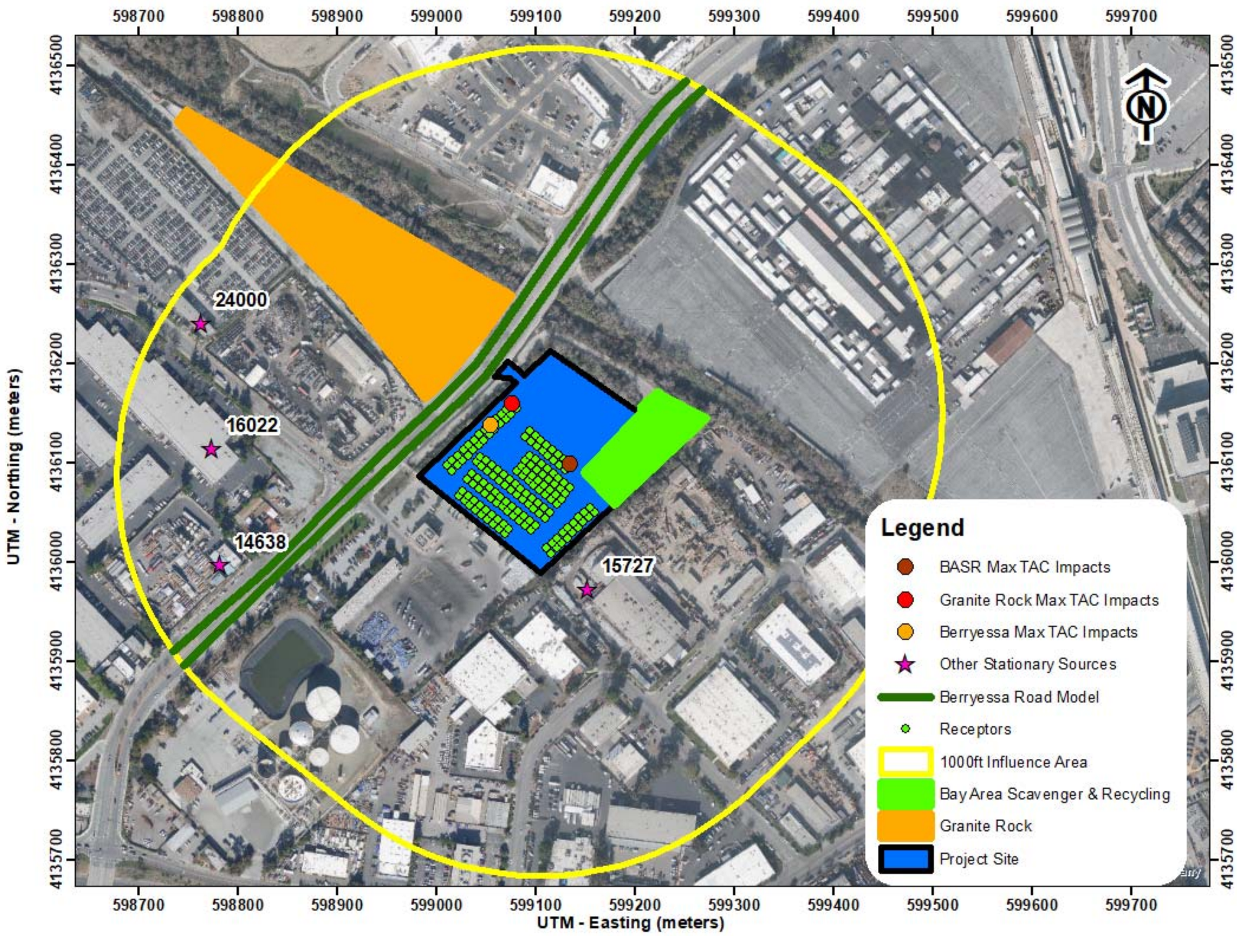


Figure 2. Bay Area Scavenger & Recycling Particulate Matter Concentration Contours (ug/m^3)

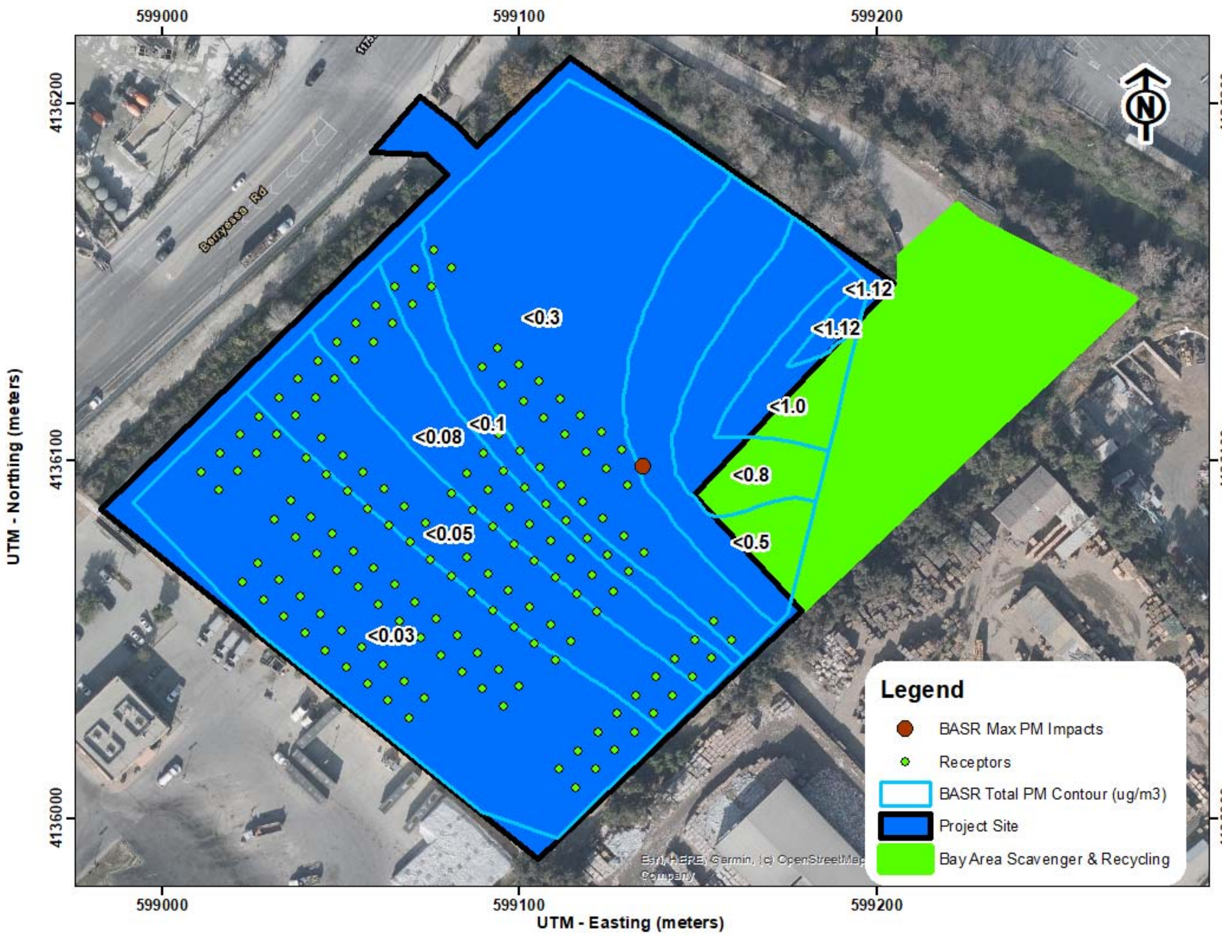
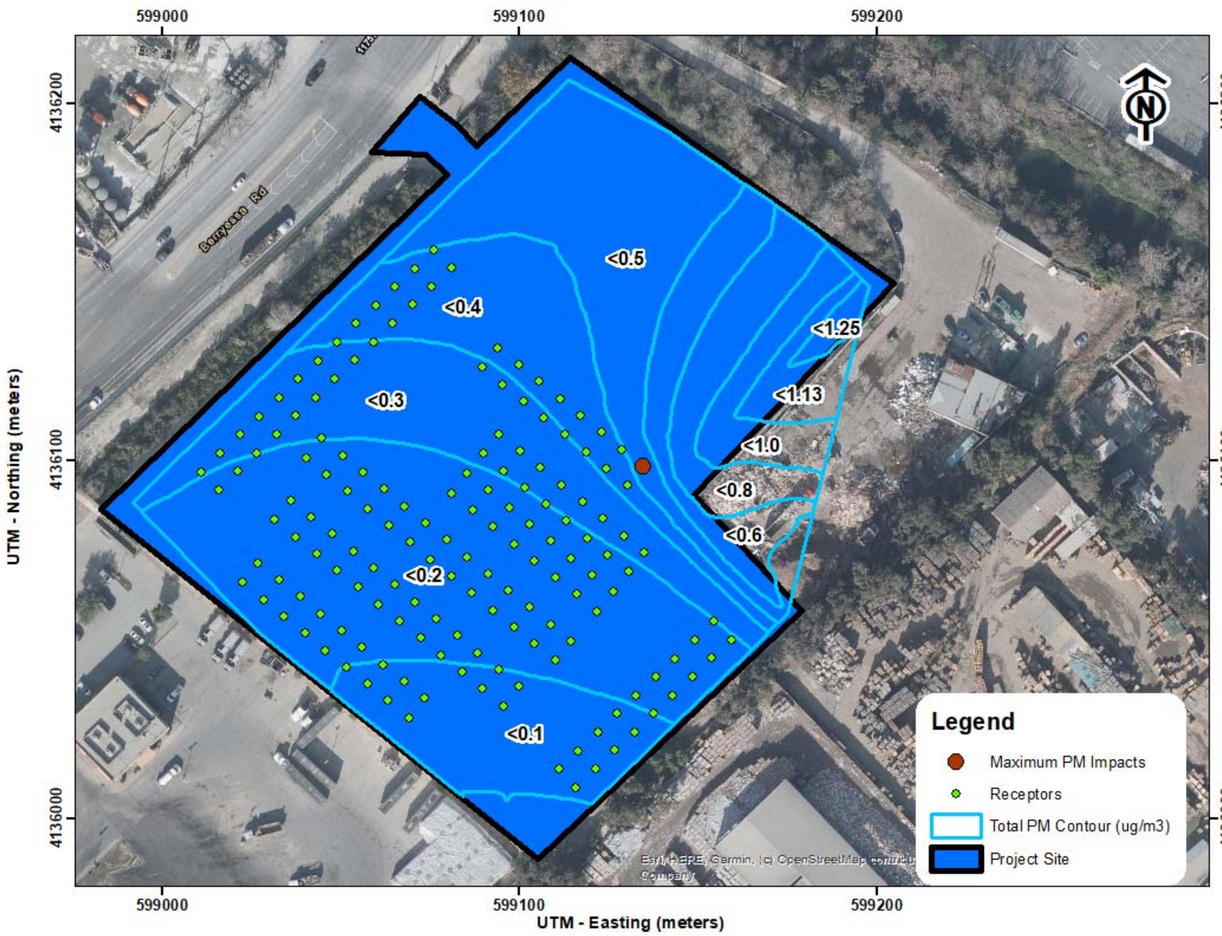


Figure 3. Granite Rock Particulate Matter Concentration Contours (ug/m^3)

Figure 4. Berryessa Road Total Particulate Matter Concentration Contours (ug/m³)

Figure 5. Total (BASR + Granite Rock + Berryessa Road) Particulate Matter Concentration Contours (ug/m^3)



Supporting Documentation

Attachment 1 includes the cumulative health risk calculations, modeling results, and health risk calculations from sources affecting the proposed sensitive receptors.

1300 Berryessa Road, San Jose, CA

DPM Emissions and Modeling Emission Rates - Granite Rock

Facility	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
				0.0	0.00000	0.00E+00	26,462	0.00E+00
Granite Rock	Equipment	0.0114	GRAN_EQUIP	22.8	0.00520	6.55E-04	26,462	2.48E-08
	Truck Trips	0.0013	GRAN_TRUCK	2.7	0.00061	7.63E-05	26,462	2.88E-09
				0.0	0.00000	0.00E+00	26,462	0.00E+00
Total		***0.0127***		***25.4***	***0.0058***	***0.0007***		

Hours

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

DPM Construction Emissions and Modeling Emission Rates - Bay Area Scavenger & Recycling

Facility	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
				0.0	0.00000	0.00E+00	5,612	0.00E+00
BASR	Equipment	0.0107	BASR_EQUIP	21.5	0.00491	6.18E-04	5,612	1.10E-07
	Truck Trips	0.0027	BASR_TRUCK	5.3	0.00121	1.53E-04	5,612	2.72E-08
				0.0	0.00000	0.00E+00	5,612	0.00E+00
Total		***0.0134***		***26.8***	***0.0061***	***0.0008***		

1300 Berryessa Road, San Jose, CA

PM2.5 Fugitive Dust Emissions for Modeling - Granite Rock

Facility	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
	Operation	GRAN_PM25	0.0236	47.3	0.01079	1.36E-03	26,462	5.14E-08
Granite Rock								
	Truck Trips	GRAN_TRUCK	0.0004	0.8	0.00018	2.25E-05	26,462	8.49E-10
	Fugitive	GRAN_FUG	0.0756	151.1	0.03450	4.35E-03	26,462	1.64E-07
Total			***0.0996***	***199.2***	***0.0455***	***0.0057***		

Hours

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

PM2.5 Fugitive Dust Construction Emissions for Modeling - Bay Area Scavenger & Recycling

Facility	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
	Operation	BASR_PM25	0.1113	222.7	0.05084	6.41E-03	5,612	1.14E-06
BASR								
	Truck Trips	BASR_TRUCK	0.0008	1.6	0.00036	4.49E-05	5,612	8.01E-09
	Fugitive	BASR_FUG	0.1007	201.5	0.04600	5.80E-03	5,612	1.03E-06
Total			***0.2129***	***425.7***	***0.0972***	***0.0122***		

1300 Berryessa, San Jose, CA - Maximum Site Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at On-Site MEI Location 6 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2024	0.0187	10	0.25	2024	0.0187	-	-
1	1	0 - 1	2024	0.0187	10	3.07	2024	0.0187	1	0.05
2	1	1 - 2	2025	0.0187	10	3.07	2025	0.0187	1	0.05
3	1	2 - 3	2026	0.0187	3	0.48	2026	0.0187	1	0.05
4	1	3 - 4	2027	0.0187	3	0.48	2027	0.0187	1	0.05
5	1	4 - 5	2028	0.0187	3	0.48	2028	0.0187	1	0.05
6	1	5 - 6	2029	0.0187	3	0.48	2029	0.0187	1	0.05
Total Increased Cancer Risk						**8.33**				**0.32**

* Third trimester of pregnancy

	Maximum	
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.00	0.364	0.44

1300 Berryessa, San Jose, CA - Maximum Site Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at On-Site MEI Location 2 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air (μg/m^3)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			**Adult**
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Modeled DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2024	0.0187	10	0.25	2024	0.0187	-	-
1	1	0 - 1	2024	0.0187	10	3.07	2024	0.0187	1	0.05
2	1	1 - 2	2025	0.0187	10	3.07	2025	0.0187	1	0.05
Total Increased Cancer Risk						**6.39**				**0.11**

* Third trimester of pregnancy

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.364	0.44

1300 Berryessa, San Jose, CA - Granite Rock Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Granite Rock
Impacts at On-Site MEI Location 6 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2024	0.0116	10	0.16	2024	0.0116	-	-
1	1	0 - 1	2024	0.0116	10	1.91	2024	0.0116	1	0.03
2	1	1 - 2	2025	0.0116	10	1.91	2025	0.0116	1	0.03
3	1	2 - 3	2026	0.0116	3	0.30	2026	0.0116	1	0.03
4	1	3 - 4	2027	0.0116	3	0.30	2027	0.0116	1	0.03
5	1	4 - 5	2028	0.0116	3	0.30	2028	0.0116	1	0.03
6	1	5 - 6	2029	0.0116	3	0.30	2029	0.0116	1	0.03
Total Increased Cancer Risk						**5.19**				**0.20**

* Third trimester of pregnancy

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.115	0.13

1300 Berryessa, San Jose, CA - Bay Area Scavenger & Recycling Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Bay Area Scavenger & Recycling Impacts at On-Site MEI Location 6 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)	Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2024	0.0093	10	0.13	2024	0.0093	-	-			
1	1	0 - 1	2024	0.0093	10	1.53	2024	0.0093	1	0.03	0.00	0.312	0.32
2	1	1 - 2	2025	0.0093	10	1.53	2025	0.0093	1	0.03			
3	1	2 - 3	2026	0.0093	3	0.24	2026	0.0093	1	0.03			
4	1	3 - 4	2027	0.0093	3	0.24	2027	0.0093	1	0.03			
5	1	4 - 5	2028	0.0093	3	0.24	2028	0.0093	1	0.03			
6	1	5 - 6	2029	0.0093	3	0.24	2029	0.0093	1	0.03			
Total Increased Cancer Risk						**4.15**				**0.16**			

* Third trimester of pregnancy

1300 Berryessa, San Jose, CA - Granite Rock Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Granite Rock
Impacts at On-Site MEI Location 2 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air (μg/m^3)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)	Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0	0.25	-0.25 - 0*	2024	0.0116	10	0.16	2024	0.0116	-	-			
1	1	0 - 1	2024	0.0116	10	1.91	2024	0.0116	1	0.03	0.00	0.115	0.13
2	1	1 - 2	2025	0.0116	10	1.91	2025	0.0116	1	0.03			
Total Increased Cancer Risk						**3.98**				**0.07**			

* Third trimester of pregnancy

1300 Berryessa, San Jose, CA - Bay Area Scavenger & Recycling Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Bay Area Scavenger & Recycling Impacts at On-Site MEI Location 2 years - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information: Modeled DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2024	0.0093	10	0.13	2024	0.0093	-	-
1	1	0 - 1	2024	0.0093	10	1.53	2024	0.0093	1	0.03
2	1	1 - 2	2025	0.0093	10	1.53	2025	0.0093	1	0.03
Total Increased Cancer Risk						**3.18**				**0.05**

* Third trimester of pregnancy

Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.00	0.312	0.32

Summary of BASR Truck Traffic Emissions (EMFAC2021)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
	Tons										*Metric Tons*			
Near Project Site (0.20 Mile Trip Length)														
Annual	0.0290	0.6228	0.4644	0.0009	0.0052	0.0027	0.0078	0.0008	0.0012	0.0020	90.9920	0.0203	0.0146	95.8553

Summary of Granite Rock Truck Traffic Emissions (EMFAC2021)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total		NBio- CO2	CH4	N2O	CO2e
					Tons								*Metric Tons*		
Near Project Site (0.20 Mile Trip Length)															
Annual	0.0145	0.3114	0.2322	0.0004	0.0026	0.0013	0.0039	0.0004	0.0006	0.0010		45.4966	0.0101	0.0073	47.9282

BASR EMFAC2021 Inputs

Phase	WORKER TRIPS	VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class		*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Operation/Deliveries	0	0	0	0	78729	10.8	7.3	0.2	LD_Mix	HDT_Mix	HHDT		0	0	15745.8

Number of Days Per Year					
Annual	1/1/24	12/31/24	366	262	
			366	**262**	***Total Workdays***

Granite Rock EMFAC2021 Inputs

Phase	WORKER TRIPS	VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Operation/Deliveries	0	0	0	0	39365	10.8	7.3	0.2	LD_Mix	HDT_Mix	HHDT	0	0	7873

Number of Days Per Year				
Annual	1/1/24	12/31/24	366	262
			366	**262** ***Total Workdays***

Entrained PM2.5 Road Dust Emission Factors
Bay Area Scavenger & Recycling Onsite
Project Operation
Year = 2024

$E_{2.5}$ = [k(sL)^$^{0.91}$ x (W)^$^{1.02}$ x (1-P/4N) x 453.59

where:

$E_{2.5}$ = $PM_{2.5}$ emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5}$ = k_{PM10} x (0.0686/0.4572) = 1.0 x 0.15 = 0.15 g/VMT

sL = roadway specific silt loading (g/m^2)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)[a]

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: [a] CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m^2)	Average Weight (tons)	County	No. Days ppt > 0.01"	$PM_{2.5}$ Emission Factor (g/VMT)	Vehicles per Day	Modeled Road Length (mi)	Daily PM2.5 Emissions (g/day)
Industrial	4.800	10	Santa Clara	64	6.25970	200	0.20	250.4

Entrained PM2.5 Road Dust Emission Factors
Granite Rock Onsite
Project Operation
Year = 2024

$E_{2.5}$ = [k(sL)^$^{0.91}$ x (W)^$^{1.02}$ x (1-P/4N) x 453.59

where:

$E_{2.5}$ = $PM_{2.5}$ emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5}$ = k_{PM10} x (0.0686/0.4572) = 1.0 x 0.15 = 0.15 g/VMT

sL = roadway specific silt loading (g/m^2)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)[a]

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: [a] CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m^2)	Average Weight (tons)	County	No. Days ppt > 0.01"	$PM_{2.5}$ Emission Factor (g/VMT)	Vehicles per Day	Modeled Road Length (mi)	Daily PM2.5 Emissions (g/day)
Industrial	4.800	10	Santa Clara	64	6.25970	150	0.20	187.8

Step 1:
Enter Facility Data

Plant Name	Bay Area Scavenger & Recycling LLC
Plant No.	24249

Note: This tool can only be used for permitted facilities that are not gas stations.

Step 4:
Specify Source Type

Does facility have only diesel backup generators?	no

Note: Default generic distance multiplier used if source is not a generator.

Step 2:
Estimate Distance

What is the distance (m) from the facility boundary to the MEI?	0

Step 5:
Record the Estimates

Cancer Risk	3.474	per 1,000,000
Chronic Hazard	0.138	
PM2.5 Concentration	0.000	µg/m^3

Step 3:
Enter Emissions Data

Chemical Name	CAS No. (dashes removed)	Rate (lb/day)	Risk (# / 1,000,000)	Hazard (index)	Concentration (µg/m3)
Fine Particulate Matter (PM2.5)					
1,1,1-Trichloroethane	71556				
1,1,2,2-Tetrachloroethane	79345				
1,1,2-Trichloroethane	79005				
1,1-Dichloroethane	75343				
1,1-Dichloroethylene	75354				
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268879				
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001020				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469				
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394				
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673897				
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286				
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857				
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743				
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764				
1,2,3,7,8-Pentachlorodibenzofuran	57117416				
1,2-Dibromo-3-chloropropane	96128				
1,2-Dibromoethane	106934				
1,2-Dichloroethane	107062				
1,2-Epoxybutane	106887				
1,3-Butadiene	106990				
1,3-Propane sultone	1120714				
1,4-Dichlorobenzene	106467				

1,4-Dioxane	123911
1,6-Dinitropyrene	42397648
1,6-Hexamethylene Diisocyanate (monomer)	822060
1,8-Dinitropyrene	42397659
1-Nitropyrene	5522430
2',3,4,4',5-PeCB	65510443
2,3',4,4',5,5'-HxCB	52663726
2,3',4,4',5-PeCB	31508006
2,3,3',4,4',5'-HxCB	69782907
2,3,3',4,4',5,5'-HpCB	39635319
2,3,3',4,4',5-HxCB	38380084
2,3,3',4,4'-PeCB	32598144
2,3,4,4',5-PeCB	74472370
2,3,4,6,7,8-hexachlorodibenzofuran	60851345
2,3,4,7,8-Pentachlorodibenzofuran	57117314
2,3,7,8-Tetrachlorodibenzo-p-dioxin and related compo	1746016
2,3,7,8-Tetrachlorodibenzofuran	51207319
2,4,6-Trichlorophenol	88062
2,4-Diaminoanisole	615054
2,4-Diaminotoluene	95807
2,4-Dinitrotoluene	121142
2-Aminoanthraquinone	117793
2-Nitrofluorene	607578
3,3',4,4',5,5'-HxCB	32774166
3,3',4,4',5-PeCB	57465288
3,3',4,4'-TCB	32598133
3,3-Dichlorobenzidine	91941
3,4,4'5-TCB	70362504
3-Methylcholanthrene	56495
4,4-Methylene bis(2-chloroaniline)	101144
4,4-Methylenedianiline	101779
4-Chloro-ortho-phenylenediamine	95830
4-Dimethylaminoazobenzene	60117
4-Nitropyrene	57835924
5-Methylchrysene	3697243
5-Nitroacenaphthene	602879
6-Nitrochrysene	7496028
7,12-Dimethylbenz(a)anthracene	57976
7H-dibenzo(c,g)carbazole	194592
Acetaldehyde	75070
Acetamide	60355
Acrolein	107028
Acrylamide	79061
Acrylic Acid	79107
Acrylonitrile	107131

Allyl chloride	107051			
Ammonia	7664417			
Aniline	62533			
Arsenic	7440382	6.67E-06	1.54E+00	9.01E-02
Arsine	7784421			
Asbestos [1/(100 PCM fibers/m^3)]^-1	1332214			
Benz(a)anthracene	56553			
Benzene	71432	7.66E-03	9.80E-01	4.83E-03
Benzidine	92875			
Benzo(a)pyrene	50328			
Benzo(b)fluoranthene	205992			
Benzo(j)fluoranthene	205823			
Benzo(k)fluoranthene	207089			
Benzyl Chloride	100447			
Beryllium	7440417	3.91E-06	4.20E-02	1.06E-03
Bis(2-chloroethyl) Ether	111444			
Bis(2-chloromethyl) Ether	542881			
Cadmium	7440439	1.67E-05	3.20E-01	3.15E-03
Caprolactam	105602			
Carbon Disulfide	75150			
Carbon Monoxide	630080			
Carbon Tetrachloride	56235			
Carbonyl Sulfide	463581			
Chlorinated paraffins (Avg. chain length C12; approx. 6	108171262			
Chlorine	7782505			
Chlorine Dioxide	10049044			
Chlorite	7758192			
Chlorobenzene	108907			
Chlorodibromomethane	124481			
Chloroethane (Ethyl Chloride)	75003			
Chloroform	67663			
Chloropicrin	76062			
Chromic Trioxide	1333820			
Chromium-hexavalent	18540299	3.45E-07	2.47E-01	3.26E-06
Barium chromate	10294403			
Calcium chromate	13765190			
Lead chromate	7758976			
Sodium dichromate	10588019			
Strontium chromate	7789062			
Zinc chromate	13530659			
CHROMIC TRIOXIDE (as chromic acid mist)	1333820			
Chrysene	218019			
Cobalt	7440484			
Copper	7440508			
Copper and Copper Compounds	7440508			

	Cresol Mixtures	1319773				
	Cupferron	135206				
	Cyanide	57125				
	Di(2-ethylhexyl)phthalate	117817				
	Dibenz(a-h)acridine	226368				
	Dibenz(a-h)anthracene	53703				
	Dibenz(a-j)acridine	224420				
	Dibenzo(a-e)pyrene	192654				
	Dibenzo(a-h)pyrene	189640				
	Dibenzo(a-i)pyrene	189559				
	Dibenzo(a-l)pyrene	191300				
	Diesel Exhaust Particulate	85105				
	Diethanolamine	111422				
	Dimethylformamide	68122				
	Direct Black 38 (Technical Grade)	1937377				
	Direct Blue 6 (Technical Grade)	2602462				
	Direct Brown 95 (Technical Grade)	16071866				
	Epichlorohydrin	106898				
	Ethylbenzene	100414				
	Ethylene Glycol	107211				
	Ethylene Glycol Monobutyl Ether	111762				
	Ethylene Glycol Monoethyl Ether	110805				
	Ethylene Glycol Monoethyl Ether Acetate	111159				
	Ethylene Glycol Monomethyl Ether	109864				
	Ethylene Glycol Monomethyl Ether Acetate	110496				
	Ethylene Oxide	75218				
	Ethylene Thiourea	96457				
	Fluorides	1101				
	Formaldehyde (gas)	50000	6.34E-04	1.70E-02	1.33E-04	
	Glutaraldehyde	111308				
	Hexachlorobenzene	118741				
	Hexachlorocyclohexane (Technical Grade)	608731				
	Hexachlorocyclohexane- Alpha Isomer	319846				
	Hexachlorocyclohexane- Beta Isomer	319857				
	Hexachlorocyclohexane- Gamma Isomer	58899				
	Hydrazine	302012				
	Hydrogen Chloride	7647010				
	Hydrogen Cyanide	74908				
	Hydrogen Fluoride	7664393				
	Hydrogen Selenide	7783075				
	Hydrogen Sulfide	7783064				
	Indeno(1-2-3-c-d)pyrene	193395				
	Isophorone	78591				
	Isopropyl Alcohol	67630				

Lead Acetate	301042			
Lead and Lead Compounds	7439921	1.42E-05	1.77E-02	
Lead Phosphate	7446277			
Lead Subacetate	1335326			
m-CRESOL	108394			
m-XYLENE	108383			
Maleic Anhydride	108316			
Manganese & Manganese Compounds	7439965	2.22E-05		4.66E-04
Mercury (Inorganic)	7439976	4.72E-06		1.65E-03
Mercuric chloride	7487947			
Methanol	67561			
Methyl Bromide	74839			
Methyl Ethyl Ketone	78933			
Methyl Isocyanate	624839			
Methyl Tertiary Butyl Ether	1634044			
Methylene Chloride (Dichloromethane)	75092			
Methylene Diphenyl Isocyanate (MDI)	101688			
Michlers Ketone	90948			
n-Hexane	110543			
n-Nitroso-n-methylethylamine	10595956			
n-Nitrosodi-n-Butylamine	924163			
n-Nitrosodi-n-Propylamine	621647			
n-Nitrosodiethylamine	55185			
n-Nitrosodimethylamine	62759			
n-Nitrosodiphenylamine	86306			
n-Nitrosomorpholine	59892			
n-Nitrosopiperidine	100754			
n-Nitrosopyrrolidine	930552			
Naphthalene	91203			
Nickel and Nickel Compounds	7440020	2.70E-04	3.14E-01	3.64E-02
Nickel acetate	373024			
Nickel carbonate	3333673			
Nickel carbonyl	13463393			
Nickel hydroxide	12054487			
Nickelocene	1271289			
Nickel Oxide	1313991			
Nickel Refinery Dust	1146			
Nickel Subsulfide	12035722			
Nitric Acid	7697372			
Nitrogen Dioxide	10102440			
o-CRESOL	95487			
o-XYLENE	95476			
Oleum	8014957			
Ozone	10028156			
p-Chloro-o-toluidine	95692			

p-Cresidine	120718			
p-CRESOL	106445			
p-Nitrosodiphenylamine	156105			
p-XYLENE	106423			
Pentachlorophenol	87865			
Perchloroethylene	127184			
Phenol	108952			
Phosgene	75445			
Phosphine	7803512			
Phosphoric Acid	7664382			
Phthalic Anhydride	85449			
Polychlorinated Biphenyls	1336363			
Potassium Bromate	7758012			
Propylene	115071			
Propylene Glycol Monomethyl Ether	107982			
Propylene oxide	75569			
Selenium	7782492			
Selenium sulfide	7446346			
Silica (crystalline, respirable)	7631869			
Sodium hydroxide	1310732			
Styrene	100425			
Sulfates	9960			
Sulfur Dioxide	7446095			
Sulfuric Acid	7664939			
Sulfur Trioxide	7446719			
Tertiary-butyl acetate	540885			
Tetrachloroethylene	127184			
Thioacetamide	62555			
Toluene	108883			
Toluene Diisocyanates	26471625			
Toluene Diisocyanates (2,4 and 2, 6)	584849			
Toluene Diisocyanates (2,4 and 2, 6)	91087			
Trichloroethylene	79016			
Triethylamine	121448			
Urethane	51796			
Vanadium pentoxide	1314621			
Vinyl acetate	108054			
Vinyl chloride	75014			
Xylenes (technical mixture of m, o, p-isomers)	1330207			
Vanadium	7440622			
TOTAL UNADJUSTED Risk Values		**3.474**	**0.138**	**0.000**

1300 Berryessa Road, San Jose, CA - Berryessa Road Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Onsite Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2024
Receptor Information	Onsite Residential MEI receptor
Number of Receptors	160
Receptor Height	1.5 meters
Receptor Distances	At Onsite Residential MEI location

Meteorological Conditions	
BAAQMD San Jose International Airport Me	2013 - 2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0023	0.1399	0.1793

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.1654	0.1561	0.0093

1300 Berryessa Road, San Jose, CA - Berryessa Road Traffic Cancer Risk
Impacts at Onsite Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air (μg/m^3)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors (mg/kg-day)[1]

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**
0	0.25	-0.25 - 0*	2024	10	0.0023	0.1399	0.1793	0.032	0.011	0.0008	0.04
1	1	0 - 1	2024	10	0.0023	0.1399	0.1793	0.381	0.131	0.0099	0.52
2	1	1 - 2	2025	10	0.0023	0.1399	0.1793	0.381	0.131	0.0099	0.52
3	1	2 - 3	2026	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
4	1	3 - 4	2027	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
5	1	4 - 5	2028	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
6	1	5 - 6	2029	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
7	1	6 - 7	2030	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
8	1	7 - 8	2031	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
9	1	8 - 9	2032	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
10	1	9 - 10	2033	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
11	1	10 - 11	2034	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
12	1	11 - 12	2035	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
13	1	12 - 13	2036	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
14	1	13 - 14	2037	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
15	1	14 - 15	2038	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
16	1	15 - 16	2039	3	0.0023	0.1399	0.1793	0.060	0.021	0.0016	0.08
17	1	16-17	2040	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
18	1	17-18	2041	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
19	1	18-19	2042	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
20	1	19-20	2043	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
21	1	20-21	2044	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
22	1	21-22	2045	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
23	1	22-23	2046	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
24	1	23-24	2047	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
25	1	24-25	2048	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
26	1	25-26	2049	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
27	1	26-27	2050	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
28	1	27-28	2051	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
29	1	28-29	2052	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
30	1	29-30	2053	1	0.0023	0.1399	0.1793	0.007	0.002	0.0002	0.01
Total Increased Cancer Risk								1.73	0.595	0.045	**2.37**

* Third trimester of pregnancy

Hazard Index	**Maximum Fugitive PM2.5**	**Total PM2.5**
0.00046	0.16	0.17

1300 Berryessa Road, San Jose, CA - Berryessa Road Traffic Cancer Risk
Impacts at Onsite Residential MEI - 1.5 meter receptor height
2 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)[1]
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors (mg/kg-day)[1]

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2024	10	0.0023	0.1399	0.1793	0.032	0.011	0.0008	0.04
1	1	0 - 1	2024	10	0.0023	0.1399	0.1793	0.381	0.131	0.0099	0.52
2	1	1 - 2	2025	10	0.0023	0.1399	0.1793	0.381	0.131	0.0099	0.52
3	1	2 - 3	2026	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
4	1	3 - 4	2027	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
5	1	4 - 5	2028	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
6	1	5 - 6	2029	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
7	1	6 - 7	2030	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
8	1	7 - 8	2031	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
9	1	8 - 9	2032	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
10	1	9 - 10	2033	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
11	1	10 - 11	2034	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
12	1	11 - 12	2035	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
13	1	12 - 13	2036	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
14	1	13 - 14	2037	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
15	1	14 - 15	2038	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
16	1	15 - 16	2039	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
17	1	16-17	2040	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
18	1	17-18	2041	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
19	1	18-19	2042	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
20	1	19-20	2043	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
21	1	20-21	2044	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
22	1	21-22	2045	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
23	1	22-23	2046	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
24	1	23-24	2047	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
25	1	24-25	2048	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
26	1	25-26	2049	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
27	1	26-27	2050	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
28	1	27-28	2051	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
29	1	28-29	2052	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
30	1	29-30	2053	1	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00
Total Increased Cancer Risk								0.79	0.273	0.021	**1.09**

* Third trimester of pregnancy

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00046	0.16	0.17

1300 Berryessa Road, San Jose, CA - On-Site Residential
Cumulative Operation - Berryessa Road
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_EB_BER	Berryessa Road Eastbound	EB	3	783.3	0.49	17.0	55.7	3.4	40	12,308
DPM_WB_BER	Berryessa Road Westbound	WB	3	776.5	0.48	17.0	55.7	3.4	40	12,308
									Total	24,616

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00040			

Emisson Factors from CT-EMFAC2021

2024 Hourly Traffic Volumes and DPM Emissions - DPM_EB_BER

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.90%	480	2.57E-05	9	6.42%	790	4.24E-05	17	5.62%	691	3.71E-05
2	2.58%	317	1.70E-05	10	7.34%	903	4.85E-05	18	3.27%	402	2.16E-05
3	2.87%	353	1.89E-05	11	6.42%	790	4.24E-05	19	2.35%	289	1.55E-05
4	3.32%	409	2.20E-05	12	6.88%	846	4.54E-05	20	0.86%	106	5.68E-06
5	2.18%	268	1.44E-05	13	6.25%	769	4.13E-05	21	3.09%	381	2.04E-05
6	3.38%	416	2.23E-05	14	6.19%	762	4.09E-05	22	4.13%	508	2.73E-05
7	6.02%	741	3.98E-05	15	5.10%	628	3.37E-05	23	2.52%	310	1.67E-05
8	4.64%	571	3.07E-05	16	3.78%	466	2.50E-05	24	0.92%	113	6.06E-06
								Total		12,308	

2024 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_BER

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.90%	480	2.55E-05	9	6.42%	790	4.20E-05	17	5.62%	691	3.68E-05
2	2.58%	317	1.69E-05	10	7.34%	903	4.80E-05	18	3.27%	402	2.14E-05
3	2.87%	353	1.88E-05	11	6.42%	790	4.20E-05	19	2.35%	289	1.54E-05
4	3.32%	409	2.18E-05	12	6.88%	846	4.50E-05	20	0.86%	106	5.63E-06
5	2.18%	268	1.43E-05	13	6.25%	769	4.09E-05	21	3.09%	381	2.03E-05
6	3.38%	416	2.21E-05	14	6.19%	762	4.05E-05	22	4.13%	508	2.70E-05
7	6.02%	741	3.94E-05	15	5.10%	628	3.34E-05	23	2.52%	310	1.65E-05
8	4.64%	571	3.04E-05	16	3.78%	466	2.48E-05	24	0.92%	113	6.00E-06
								Total		12,308	

1300 Berryessa Road, San Jose, CA - On-Site Residential
Cumulative Operation - Berryessa Road
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_EB_BER	Berryessa Road Eastbound	EB	3	783.3	0.49	17.0	56	1.3	40	12,308
PM2.5_WB_BER	Berryessa Road Westbound	WB	3	776.5	0.48	17.0	56	1.3	40	12,308
									Total	24,616

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.001340			

Emisson Factors from CT-EMFAC2021

2024 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_BER

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	142	2.57E-05	9	7.11%	875	1.59E-04	17	7.39%	909	1.65E-04
2	0.42%	51	9.31E-06	10	4.39%	540	9.78E-05	18	8.18%	1006	1.82E-04
3	0.41%	50	9.05E-06	11	4.66%	574	1.04E-04	19	5.70%	701	1.27E-04
4	0.26%	32	5.83E-06	12	5.89%	725	1.31E-04	20	4.27%	526	9.53E-05
5	0.50%	61	1.11E-05	13	6.15%	757	1.37E-04	21	3.26%	401	7.26E-05
6	0.90%	111	2.02E-05	14	6.04%	743	1.35E-04	22	3.30%	406	7.35E-05
7	3.79%	467	8.45E-05	15	7.01%	863	1.56E-04	23	2.46%	303	5.49E-05
8	7.76%	956	1.73E-04	16	7.14%	878	1.59E-04	24	1.87%	230	4.16E-05
								Total		12,308	

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_BER

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	142	2.55E-05	9	7.11%	875	1.57E-04	17	7.39%	909	1.63E-04
2	0.42%	51	9.23E-06	10	4.39%	540	9.69E-05	18	8.18%	1006	1.81E-04
3	0.41%	50	8.97E-06	11	4.66%	574	1.03E-04	19	5.70%	701	1.26E-04
4	0.26%	32	5.78E-06	12	5.89%	725	1.30E-04	20	4.27%	526	9.45E-05
5	0.50%	61	1.10E-05	13	6.15%	757	1.36E-04	21	3.26%	401	7.20E-05
6	0.90%	111	2.00E-05	14	6.04%	743	1.33E-04	22	3.30%	406	7.29E-05
7	3.79%	467	8.38E-05	15	7.01%	863	1.55E-04	23	2.46%	303	5.44E-05
8	7.76%	956	1.72E-04	16	7.14%	878	1.58E-04	24	1.87%	230	4.12E-05

1300 Berryessa Road, San Jose, CA - On-Site Residential
Cumulative Operation - Berryessa Road
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_EB_BER	Berryessa Road Eastbound	EB	3	783.3	0.49	17.0	56	1.3	40	12,308
TEXH_WB_BER	Berryessa Road Westbound	WB	3	776.5	0.48	17.0	56	1.3	40	12,308
									Total	24,616

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.02012			

Emisson Factors from CT-EMFAC2021

2024 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_BER

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	142	3.85E-04	9	7.11%	875	2.38E-03	17	7.39%	909	2.47E-03
2	0.42%	51	1.40E-04	10	4.39%	540	1.47E-03	18	8.18%	1006	2.74E-03
3	0.41%	50	1.36E-04	11	4.66%	574	1.56E-03	19	5.70%	701	1.91E-03
4	0.26%	32	8.75E-05	12	5.89%	725	1.97E-03	20	4.27%	526	1.43E-03
5	0.50%	61	1.67E-04	13	6.15%	757	2.06E-03	21	3.26%	401	1.09E-03
6	0.90%	111	3.02E-04	14	6.04%	743	2.02E-03	22	3.30%	406	1.10E-03
7	3.79%	467	1.27E-03	15	7.01%	863	2.35E-03	23	2.46%	303	8.24E-04
8	7.76%	956	2.60E-03	16	7.14%	878	2.39E-03	24	1.87%	230	6.25E-04
								Total		12,308	

2024 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_BER

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	142	3.82E-04	9	7.11%	875	2.36E-03	17	7.39%	909	2.45E-03
2	0.42%	51	1.39E-04	10	4.39%	540	1.46E-03	18	8.18%	1006	2.71E-03
3	0.41%	50	1.35E-04	11	4.66%	574	1.55E-03	19	5.70%	701	1.89E-03
4	0.26%	32	8.68E-05	12	5.89%	725	1.95E-03	20	4.27%	526	1.42E-03
5	0.50%	61	1.66E-04	13	6.15%	757	2.04E-03	21	3.26%	401	1.08E-03
6	0.90%	111	3.00E-04	14	6.04%	743	2.00E-03	22	3.30%	406	1.09E-03
7	3.79%	467	1.26E-03	15	7.01%	863	2.33E-03	23	2.46%	303	8.17E-04
8	7.76%	956	2.58E-03	16	7.14%	878	2.37E-03	24	1.87%	230	6.19E-04
								Total		12,308	

1300 Berryessa Road, San Jose, CA - On-Site Residential
Cumulative Operation - Berryessa Road
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_EB_BER	Berryessa Road Eastbound	EB	3	783.3	0.49	17.0	56	1.3	40	12,308
TEVAP_WB_BER	Berryessa Road Westbound	WB	3	776.5	0.48	17.0	56	1.3	40	12,308
									Total	24,616

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	1.02854			
Emissions per Vehicle per Mile (g/VMT)	0.02571			

Emisson Factors from CT-EMFAC2021

2024 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_BER

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	142	4.93E-04	9	7.11%	875	3.04E-03	17	7.39%	909	3.16E-03
2	0.42%	51	1.79E-04	10	4.39%	540	1.88E-03	18	8.18%	1006	3.50E-03
3	0.41%	50	1.74E-04	11	4.66%	574	2.00E-03	19	5.70%	701	2.44E-03
4	0.26%	32	1.12E-04	12	5.89%	725	2.52E-03	20	4.27%	526	1.83E-03
5	0.50%	61	2.14E-04	13	6.15%	757	2.63E-03	21	3.26%	401	1.39E-03
6	0.90%	111	3.87E-04	14	6.04%	743	2.58E-03	22	3.30%	406	1.41E-03
7	3.79%	467	1.62E-03	15	7.01%	863	3.00E-03	23	2.46%	303	1.05E-03
8	7.76%	956	3.32E-03	16	7.14%	878	3.05E-03	24	1.87%	230	7.98E-04
								Total		12,308	

2024 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_BER

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	142	4.88E-04	9	7.11%	875	3.02E-03	17	7.39%	909	3.13E-03
2	0.42%	51	1.77E-04	10	4.39%	540	1.86E-03	18	8.18%	1006	3.47E-03
3	0.41%	50	1.72E-04	11	4.66%	574	1.98E-03	19	5.70%	701	2.42E-03
4	0.26%	32	1.11E-04	12	5.89%	725	2.50E-03	20	4.27%	526	1.81E-03
5	0.50%	61	2.12E-04	13	6.15%	757	2.61E-03	21	3.26%	401	1.38E-03
6	0.90%	111	3.83E-04	14	6.04%	743	2.56E-03	22	3.30%	406	1.40E-03
7	3.79%	467	1.61E-03	15	7.01%	863	2.98E-03	23	2.46%	303	1.04E-03
8	7.76%	956	3.29E-03	16	7.14%	878	3.03E-03	24	1.87%	230	7.91E-04
								Total		12,308	

1300 Berryessa Road, San Jose, CA - On-Site Residential
Cumulative Operation - Berryessa Road
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_EB_BER	Berryessa Road Eastbound	EB	3	783.3	0.49	17.0	56	1.3	40	12,308
FUG_WB_BER	Berryessa Road Westbound	WB	3	776.5	0.48	17.0	56	1.3	40	12,308
									Total	24,616

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.00502			
Road Dust - Emissions per Vehicle (g/VMT)	0.01528			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02241			

Emisson Factors from CT-EMFAC2021

2024 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_BER

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	142	4.29E-04	9	7.11%	875	2.65E-03	17	7.39%	909	2.75E-03
2	0.42%	51	1.56E-04	10	4.39%	540	1.64E-03	18	8.18%	1006	3.05E-03
3	0.41%	50	1.51E-04	11	4.66%	574	1.74E-03	19	5.70%	701	2.12E-03
4	0.26%	32	9.75E-05	12	5.89%	725	2.20E-03	20	4.27%	526	1.59E-03
5	0.50%	61	1.86E-04	13	6.15%	757	2.29E-03	21	3.26%	401	1.21E-03
6	0.90%	111	3.37E-04	14	6.04%	743	2.25E-03	22	3.30%	406	1.23E-03
7	3.79%	467	1.41E-03	15	7.01%	863	2.62E-03	23	2.46%	303	9.18E-04
8	7.76%	956	2.90E-03	16	7.14%	878	2.66E-03	24	1.87%	230	6.96E-04
								Total		12,308	

2024 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_BER

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	142	4.26E-04	9	7.11%	875	2.63E-03	17	7.39%	909	2.73E-03
2	0.42%	51	1.54E-04	10	4.39%	540	1.62E-03	18	8.18%	1006	3.02E-03
3	0.41%	50	1.50E-04	11	4.66%	574	1.72E-03	19	5.70%	701	2.11E-03
4	0.26%	32	9.67E-05	12	5.89%	725	2.18E-03	20	4.27%	526	1.58E-03
5	0.50%	61	1.85E-04	13	6.15%	757	2.27E-03	21	3.26%	401	1.20E-03
6	0.90%	111	3.34E-04	14	6.04%	743	2.23E-03	22	3.30%	406	1.22E-03
7	3.79%	467	1.40E-03	15	7.01%	863	2.59E-03	23	2.46%	303	9.10E-04
8	7.76%	956	2.87E-03	16	7.14%	878	2.64E-03	24	1.87%	230	6.90E-04
								Total		12,308	

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information	
Date of Request	**5/23/2023**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	jbauer@illingworthrodkin.com
Project Name	
Address	
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	80 RV spots
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A mplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B section only.

6. Note that a small percentage of the stationary Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data

Project Site

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
660	14638	Clean Harbors San Jose LLC	1021 Berryessa Road	0	0	0		Professional, Scientific, and Technical Servic		2021 Dataset	0.25	0.00	0.00000	0.0000
20	15727	California Waste Solutions	1005 Timothy Drive	0	0	0.216		Wholesale Trade		2021 Dataset	1.00	0.00	0.00000	0.2160
1175	16022	Johnson Matthey Inc	1070 Commercial St Ste 11	0	0	0		Manufacturing		2021 Dataset	0.13	0.00	0.00000	0.0000
805	24000	Pick N Pull Auto Dismantlers	1065 Commercial St	0.05	0	0		Wholesale Trade		2021 Dataset	0.19	0.01	0.00000	0.0000

Footnotes:

1. Maximally exposed individual

2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.

3. Each plant may have multiple permits and sources.

4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.

5. Fuel codes: 98 = diesel, 189 = Natural Gas.

6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.

7. The date that the HRSA was completed.

8. Engineer who completed the HRSA. For District purposes only.

9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.

10. The HRSA "Chronic Health" number represents the Hazard Index.

11. Further information about common sources:

a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.

b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less. To

c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010.
Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.

d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the

e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.

f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.

g. This spray booth is considered to be insignificant.

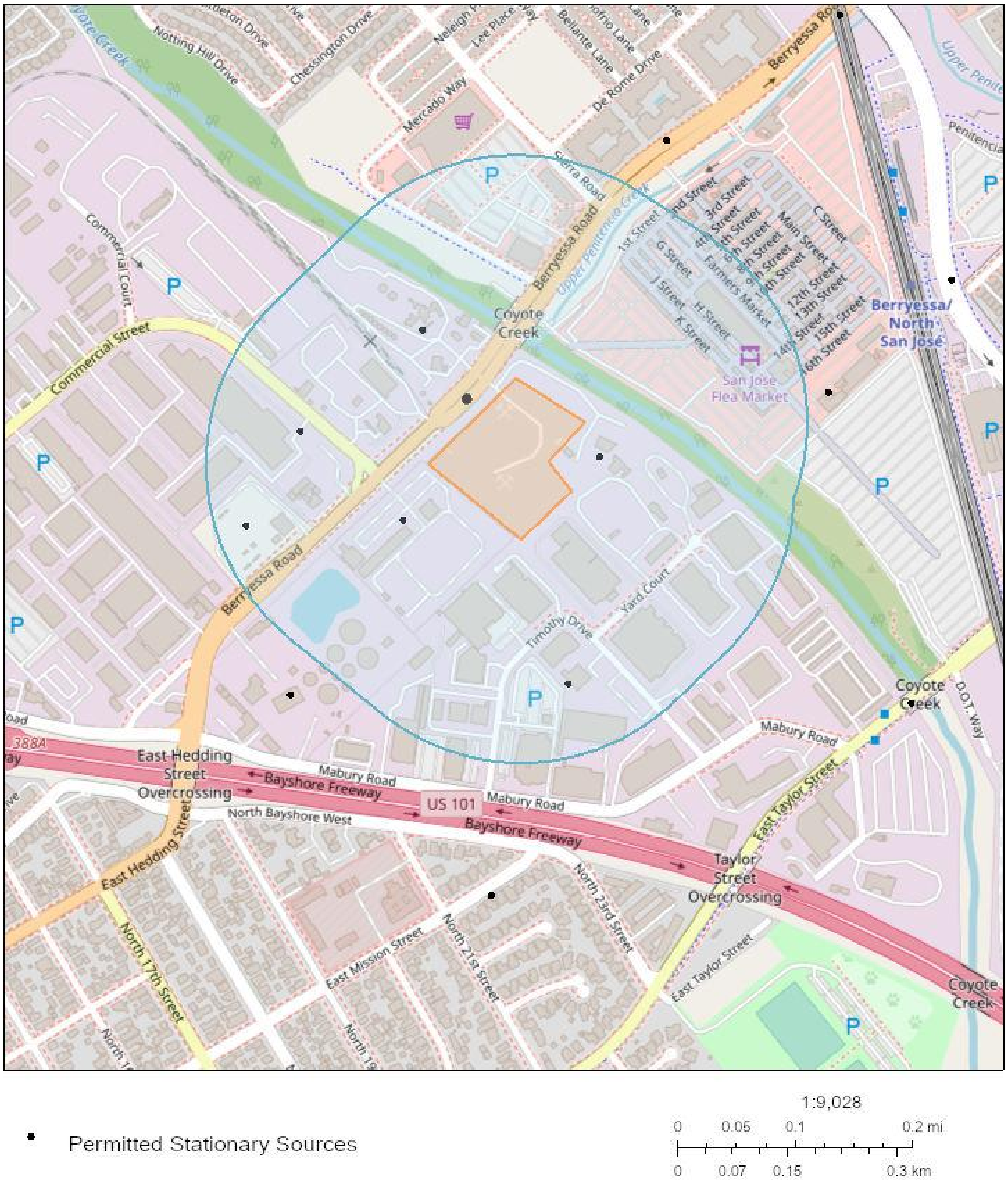
Date last updated:
03/13/2018

Screening Report

Area of Interest (AOI) Information

Area : 5,493,099.52 ft²

Apr 18 2023 12:03:08 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	6	N/A	N/A

Permitted Stationary Sources

#	Facility_I	Facility_N	Address	City	State
1	181	Granite Rock	11711 Berryessa Road	San Jose	CA
2	14638	Clean Harbors San Jose LLC	1021 Berryessa Road	San Jose	CA
3	15727	California Waste Solutions	1005 Timothy Drive	San Jose	CA
4	16022	Johnson Matthey Inc	1070 Commercial St Ste 110	San Jose	CA
5	24000	Pick N Pull Auto Dismantlers	1065 Commercial St	San Jose	CA
6	24249	Bay Area Scavenger & Recycling LLC	11740 Berryessa Rd BASR Yard	San Jose	CA

#	Zip	County	Latitude	Longitude	Details
1	95133	Santa Clara	37.367882	-121.882233	*No Data*
2	95133	Santa Clara	37.365474	-121.884956	*No Data*
3	95133	Santa Clara	37.363534	-121.879982	*No Data*
4	95112	Santa Clara	37.366638	-121.884126	*No Data*
5	95112	Santa Clara	37.365542	-121.882539	*No Data*
6	95133	Santa Clara	37.366324	-121.879501	*No Data*

#	NAICS	NAICS_Sect	NAICS_Subs	NAICS_Indu	Cancer_Ris
1	423320	Wholesale Trade	Merchant Wholesalers, Durable Goods	Brick, Stone, and Related Construction Material Merchant Wholesalers	0.000000
2	541320	Professional, Scientific, and Technical Services	Professional, Scientific, and Technical Services	Landscape Architectural Services	0.000000
3	423930	Wholesale Trade	Merchant Wholesalers, Durable Goods	Recyclable Material Merchant Wholesalers	0.000000
4	332117	Manufacturing	Fabricated Metal Product Manufacturing	Powder Metallurgy Part Manufacturing	0.000000
5	423140	Wholesale Trade	Merchant Wholesalers, Durable Goods	Motor Vehicle Parts (Used) Merchant Wholesalers	0.050000
6	562219	Administrative and Support and Waste Management and Remediation Services	Waste Management and Remediation Services	Other Nonhazardous Waste Treatment and Disposal	0.230000

#	Chronic_Ha	PM25	Count
1	0.000000	2.806000	1
2	0.000000	0.000000	1
3	0.000000	0.216000	1
4	0.000000	0.000000	1
5	0.000000	0.000000	1
6	0.004000	15.144000	1

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.

3. Construction Emissions Details

3.1 Grading (2024) - Unmitigated (Granite Rock)

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Onsite																		
Daily, Summer (Max)																		
Off-Road E	0.2687007	0.2257832	1.8809972	2.4929243	0.0033515	0.0869008		0.0869008	0.0799487		0.0799487		363.10719	363.10719	0.0147292	0.0029458		364.35328801824477
Dust From							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	0.2687007	0.2257832	1.8809972	2.4929243	0.0033515	0.0869008		0.0869008	0.0799487		0.0799487		363.10719	363.10719	0.0147292	0.0029458		364.35328801824477
Dust From							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.1928756	0.1620690	1.3501952	1.7894415	0.0024057	0.0623781		0.0623781	0.0573878		0.0573878		260.64132	260.64132	0.0105727	0.0021145		261.53578482405516
Dust From							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.0351997	0.0295776	0.2464106	0.3265730	0.0004390	0.0113840		0.0113840	0.0104732		0.0104732		43.152146	43.152146	0.0017504	0.0003500		43.30023380935496
Dust From							0	0		0	0							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3. Construction Emissions Details

3.3 Building Construction (2024) - Unmitigated (Bay Area Scavenger and Recycling)

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Onsite																		
Daily, Summer (Max)																		
Off-Road E	0.2594393	0.2180010	2.0461028	2.9282658	0.0039904	0.0820098		0.0820098	0.0754490		0.0754490		432.19097	432.19097	0.0175315	0.0035063		433.6741447450526
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road E	0.2594393	0.2180010	2.0461028	2.9282658	0.0039904	0.0820098		0.0820098	0.0754490		0.0754490		432.19097	432.19097	0.0175315	0.0035063		433.6741447450526
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.1862276	0.1564829	1.4687094	2.1019332	0.0028643	0.0588673		0.0588673	0.0541579		0.0541579		310.23023	310.23023	0.0125842	0.0025168		311.29486554302406
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.0339865	0.0285581	0.2680394	0.3836028	0.0005227	0.0107432		0.0107432	0.0098838		0.0098838		51.362155	51.362155	0.0020834	0.0004166		51.538417470223344
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

5. Activity Data

5.1 Construction Schedule

Phase Name	Start Date	End Date	Days Per W	Work Days	Phase Description
Granite Rock	1/1/2024	12/31/202	5	262	
BASR	1/1/2024	12/31/202	5	262	

5.2. Off-Road Equipment

5.2.1 Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number pe	Hours Per	Horsepowe	Load Factor
Granite Rock	Tractors/Loaders/Backhoes	Diesel	Average	1	4	84	0.37
Granite Rock	Forklifts	Diesel	Average	1	4	82	0.2
Granite Rock	Rollers	Diesel	Average	1	4	36	0.38
Granite Rock	Excavators	Diesel	Average	1	4	36	0.38
BASR	Tractors/Loaders/Backhoes	Diesel	Average	2	4	84	0.37
BASR	Excavators	Diesel	Average	2	4	36	0.38

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 E. Cotati Avenue
Cotati, CA 94931
Tel: 707-794-0400 *Fax: 707-794-0405*
www.illingworthrodkin.com *illro@illingworthrodkin.com*

October 9, 2023

Carolyn Mogollon
Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San Jose, CA 95126

VIA E-Mail: cmogollon@davidjpowers.com

SUBJECT: 1300 Berryessa Project in San Jose, CA – Proposal to Perform Updated Site Plan Review

This memo describes potential air quality impacts attributable to the operation of a safe parking area for cars and recreational vehicles (RVs) and cars on an approximately 7.1-acre site located at 1300 Berryessa Road. San José, California. Air pollutant emissions would be generated by operation of personal gasoline-powered generators and motor vehicles. The safe parking site is proposed at the currently unoccupied 1300 Berryessa Road lot which contains two industrial buildings and paved/gravel surface parking and storage areas. A Granite Rock rock materials facility is across Berryessa Road to the north, while the Bay Area Scavenger and Recycling center is along the southeastern border of the site. Berryessa Road runs along the northern border of the site. The nearest sensitive land uses are residences located at 1501 Berryessa Road, approximately 935 feet northeast of the site.

Project Description

The proposed project would provide safe parking for 85 lived-in RV and 41 unoccupied RV parking spaces along with 46 parking spaces and 4 ADA parking spaces for staff and participant use. The RVs would be distributed throughout the site, with the unoccupied RVs located in designated parking spaces at the eastern section of the site and the remaining lived-in RVs would be parked in designated spaces to the south and west of the entrance to the site. Small gasoline- and diesel-powered generators are typically used in these settings to power small appliances such as small refrigerators, air conditioners, personal electronics etc. Generators could operate between 7:00am and 10:00pm but would not be expected to operate continuously during allowable hours.

Air Quality Analysis

Project Generated Impacts

I&R prepared an analysis of air quality impacts for the Santa Teresa Safe Parking project that addressed potential air quality impacts attributable to the operation of a safe parking area for up to 45 recreational vehicles for extended periods at the Santa Teresa Safe Parking site in San José, California.[1] Results of this analysis are applied to this Project, recognizing that the proposed Project would be larger.

Generator Emissions

I&R's previous analysis for the Santa Teresa project assumed each RV had a generator operating 10 hours per day, since information was unknown at the time. I&R personnel visited the Santa Teresa site operated by WeHope on a Tuesday, October 3, 2023. The site was observed to be at about 50-percent capacity. There were no generators powering RVs operating at the time of the visit. All generators that were visible on site were powered by gasoline. Conversations with WeHope staff indicated very little generator operation, except the generating powering the office. That generator operates all day.

The previous I&R study estimated generator emissions assuming a mix of diesel and gasoline using EPA emission rates for gasoline generators and CalEEMod for diesel generators, for engines rated at 3.5 hp. I&R's emission estimates were based on the assumed mix of gasoline and diesel engines and 10 hours of operation at all 45 lived-in RV sites. Assuming 85 RVs but much less generator operation of 2 to 3 hours per day, emissions would be less than those predicted the Santa Tersa site for worst-case conditions. That study predicted 21 pounds per day for NOx, 14 pounds per day of ROG, and 3 pounds of PM_{10}. These emissions would be well below thresholds of significance published by BAAQMD[2].

Mobile Emissions

Operation of motorhome vehicles or cars is anticipated to occur seldomly as a motorhome is driven to the site and parked for extended periods. Occasionally these are moved or driven off site for various reasons. The maximum number of trips could be about 310 trips per day, which would result in negligible emissions. There would be automobile trips generated each day, as the site includes up to 50 parking spaces. The combination of automobile trips and infrequent RV trips would have negligible emissions.

[1] Illingworth & Rodkin, Inc. 2023. *Santa Teresa Safe Parking, San José, CA – Air Quality Assessment*. Memo to Maria Kisyova (David J Powers and Associates) from James Reyff. February 13.
[2] BAAQMD. 2023. 2022 *CEQA Air Quality Guidelines*. See https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed October 6,2023.

Health Risks

There are residences about 935 feet to the north-northeast. Given the low emissions and relatively large distance between the site and nearby receptors, health risk impacts are expected to be low and well below thresholds.

Operation of multiple generators on site can lead to localized health hazards. A concern for on-site users would be generator engine operation in poorly ventilated areas that could lead to acute hazards in the form of headaches or nausea when exposed to localized emissions. These situations are difficult to predict because one can't really speculate how and where generators would be operated. For instance, someone operating a generator within or very close to a structure (unlikely) could create a hazard in terms of dangerous fumes. Some occupants could be exposed to poorly maintained and situated generators that cause these localized health effects and odors to nearby occupants. This is unlikely, but possible. Some generators may have unusually high emissions or be unusually noisy and not representative by the "typical" generator considered. To address this issue, the Project operator would provide a smoke detector and a carbon monoxide monitor for each RV and have on-site staff conduct daytime hourly walks to monitor for potential hazards. Generators are prohibited from operating during the night.

Project Site Plan Update

I&R analyzed the project site for the 1300 Berryessa project with respect to those occupying the lived-in RVs and their exposure to the emissions from nearby sources of Toxic Air Contaminants (TACs) in a June 15, 2023 report[3]. That analysis addressed nearby emissions sources within 1,000 feet and identified portions of the site where modeling of nearby pollutant and TAC emissions could cause exposures that would exceed the BAAQMD single-source significance threshold for annual $PM_{2.5}$ concentrations. This is a result of the site's proximity to Bay Area Scavenger and Recycling site. The proposed Project site plan, dated August 22, 2023, was designed to address significant exposure issues by reconfiguring the layout of the lived-in RVs such that all lived-in RVs are located in areas of the Project site where air quality would not exceed BAAQMD thresholds for occupied RVs. Occupied RVs were assumed to include all types of residential receptors that would reside at the site almost continuously.

I&R analyzed the new site plan with respect to the exposure levels identified in the original analysis that outlined cancer risk and annual $PM_{2.5}$ concentrations from nearby individual and cumulative sources. The current site plan shows that locations of all lived-in RVs to be at portions of the site that have exposures below thresholds used to identify adverse exposures. That was identified as exposure to cancer risk of greater than 10 chances per million from any single source, cancer risk from nearby sources greater than 100 chances per million, annual $PM_{2.5}$ concentrations from any single source of 0.3 $\mu g/m^3$, and annual $PM_{2.5}$ concentrations from nearby cumulative sources greater than 0.8 $\mu g/m^3$. These are the BAAQMD single-source and cumulative-source thresholds for health risk impacts.

Note that occupied RVs are anticipated to be at the site for 6 to 9 months. I&R's site visit to the Santa Teresa Safe Parking site found that there were no infants or small children present.

[3] Illingworth & Rodkin, Inc. 2023. *1300 Berryessa Road RV Safe Parking On-Site Health Risk Assessment*. June 15.