Appendix B: Construction Health Risk Assessment

1. Health Risk Assessment

1.1 CONSTRUCTION HEALTH RISK ASSESSMENT

Apple Inc. (the project applicant) proposes to redevelop the project site located at 19191 Vallco Parkway in Cupertino, California with a new office building. The proposed project would involve demolishing the existing office building and redeveloping the approximately 7.96-acre site with a four-story, office building with commercial space, and an automobile parking garage with two underground levels. The site is currently developed with an office building operated by the project applicant, with associated surface parking and landscaping. The following provides the background methodology used for the construction health risk assessment for the proposed project.

The latest version of the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines requires projects to evaluate the impacts of construction activities on sensitive receptors (BAAQMD, 2017). Project construction is anticipated to take place starting at the beginning of May 2023 and be completed by November 2024 (approximately 395 workdays). The nearest sensitive receptors to the project site include the multi-family residences to the west. Additional sensitive receptors within 1,000 feet of the site are preschool children at Sunflower Learning Center, approximately 850 feet to the south and Cupertino High School students, approximately 930 feet to the south. The BAAQMD has developed *Screening Tables for Air Toxics Evaluation During Construction* (2017) that evaluate construction-related health risks associated with residential, commercial, and industrial projects. According to the screening tables, the receptors are closer than the distance of 200 meters (656 feet) that would screen out potential health risks and, therefore, could be potentially impacted from the proposed construction activities. As a result, a site-specific construction health risk assessment (HRA) has been prepared for the proposed project. This HRA considers the health impact to off-site sensitive receptors (i.e., children at the nearby residences, preschool, and high school) from construction emissions at the project site, including diesel equipment exhaust (diesel particulate matter or DPM) and particulate matter less than 2.5 microns ($PM_{2.5}$).

It should be noted that these health impacts are based on conservative (i.e., health protective) assumptions. The United States Environmental Protection Agency (USEPA, 2005) and the Office of Environmental Health Hazard Assessment (OEHHA, 2015) note that conservative assumptions used in a risk assessment are intended to ensure that the estimated risks do not underestimate the actual risks. Therefore, the estimated risks may not necessarily represent actual risks experienced by populations at or near a site. The use of conservative assumptions tends to produce upper-bound estimates of exposure and thus risk.

For residential-based receptors, the following conservative assumptions were used:

- It was assumed that maximum-exposed off-site residential receptors (both children and adults) stood outdoors and are subject to DPM at their residence for 8 hours per day, and approximately 260 construction days per year. In reality, California residents typically will spend on average 2 hours per day

outdoors at their residences (USEPA, 2011). This would result in lower exposures to construction related DPM emissions and lower estimated risk values.

- The calculated risk for infants from third trimester to age 2 is multiplied by a factor of 10 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA, 2015).

For preschool children and high school students, the following conservative assumptions were used:

- It was assumed that maximum exposed receptor (preschool child or high school student) stood outside and are subject to DPM for 8 hours per weekday and approximately 260 construction days per year.

- The calculated risk for children age 2 to age 16 is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA, 2015).

1.2 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

For this HRA, the BAAQMD significance thresholds were deemed to be appropriate and the thresholds that were used for this project are shown below:

- Excess cancer risk of more than 10 in a million
- Non-cancer hazard index (chronic or acute) greater than 1.0
- Incremental increase in average annual $PM_{2.5}$ concentration of greater than 0.3 $\mu g/m^3$

The methodology used in this HRA is consistent with the following BAAQMD and the OEHHA guidance documents:

- BAAQMD, 2017. *California Environmental Quality Act (CEQA) Air Quality Guidelines.* May 2017.
- BAAQMD, 2016. *Planning Healthy Places.* May 2016.
- BAAQMD, 2010. *Screening Tables for Air Toxics Evaluation During Construction.* May 2010.
- BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* Version 3.0. May 2012.
- OEHHA. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* February 2015.

Potential exposures to DPM and $PM_{2.5}$ from proposed project construction were evaluated for off-site sensitive receptors in close proximity to the site. Pollutant concentrations were estimated using an air dispersion model, and excess lifetime cancer risks and chronic non-cancer hazard indexes were calculated. These risks were then compared to the significance thresholds adopted for this HRA.

1.3 CONSTRUCTION EMISSIONS

Construction emissions were calculated as average daily emissions in pounds per day, using the proposed construction schedule and the latest version of California Emissions Estimation Model, known as CalEEMod Version 2020.4 (CAPCOA, 2021). DPM emissions were based on the CalEEMod construction runs, using annual exhaust PM_{10} construction emissions presented in pounds (lbs) per day. The $PM_{2.5}$ emissions were taken from the CalEEMod output for exhaust $PM_{2.5}$ also presented in lbs per day.

The project was assumed to take place over 18 months (395 workdays) from May 2023 to November 2024. The average daily emission rates from construction equipment used during the proposed project were determined by dividing the annual average emissions for each construction year by the number of construction days per year for each calendar year of construction (i.e., 2023 and 2024). The off-site hauling emission rates were adjusted to evaluate localized emissions from the 0.72-mile haul route within 1,000 feet of the project site. The CalEEMod construction emissions output and emission rate calculations are provided in Appendix A of the HRA.

1.4 DISPERSION MODELING

Air quality modeling was performed using the AERMOD atmospheric dispersion model to assess the impact of emitted compounds on sensitive receptors near the project. The model is a steady state Gaussian plume model and is an approved model by BAAQMD for estimating ground level impacts from point and fugitive sources in simple and complex terrain. The on-site construction emissions for the project were modeled as poly-area sources. The off-site mobile sources were modeled as adjacent line volume sources. The model requires additional input parameters, including chemical emission data and local meteorology. Inputs for the construction emission rates are those described in Section 1.3. Meteorological data obtained from the BAAQMD for the nearest representative meteorological station (Moffett Federal Airfield Airport) with the five latest available years (2009 to 2013) of record were used to represent local weather conditions and prevailing winds.

The modeling analysis also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. To accommodate the model's Cartesian grid format, direction-dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each source location. In addition, digital elevation model (DEM) data for the area were obtained and included in the model runs to account for complex terrain. An emission release height of 4.15 meters was used as representative of the stack exhaust height for off-road construction equipment and diesel truck traffic, and an initial vertical dispersion parameter of 1.93 m was used, per California Air Resources Board (CARB) guidance (2000).

To determine contaminant impacts during construction hours, the model's Season-Hour-Day (HRDOW) scalar option was invoked to predict flagpole-level concentrations (1.5 m for ground floor receptors; 6.1 m for 2nd floor receptors) for construction emissions generated between the hours of 7:00 AM and 4:00 PM with a 1-hour lunch break. In addition, a scalar factor was applied to the risk calculations to account for the number of days receptors are exposed to construction emissions per year.

A unit emission rate of 1 gram per second was used for all modeling runs. The unit emission rates were proportioned over the poly-area sources for on-site construction emissions and divided between the volume sources for off-site hauling emissions. The maximum modeled concentrations from the output files were then multiplied by the emission rates calculated in Appendix A to obtain the maximum flagpole-level concentrations at the off-site maximum exposed receptors (MER). The air dispersion modeling predicted the off-site MER is a multi-family residence south of the site. The MER location is the receptor location associated with the maximum predicted AERMOD concentrations from the on-site emission source. The calculated on-site emission rates are approximately 3 orders of magnitude higher than the calculated off-site emission rates (see Appendix A). Therefore, the maximum concentrations associated with the on-site emission sources produce the highest overall ground-level MER concentrations and, consequently, highest calculated health risks.

The air dispersion model output for the emission sources is presented in Appendix B. The model output DPM and $PM_{2.5}$ concentrations from the construction emission sources are provided in Appendix C.

1.5 RISK CHARACTERIZATION

1.5.1 Carcinogenic Chemical Risk

A threshold of ten in a million ($10x10^{-6}$) has been established as a level posing no significant risk for exposures to carcinogens. Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its cancer potency factor (CPF), a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It is an upper-limit estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a lifetime of 70 years.

Recent guidance from OEHHA recommends a refinement to the standard point estimate approach with the use of age-specific breathing rates and age sensitivity factors (ASFs) to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to accommodate the unique exposures associated with the sensitive receptors, the following dose algorithm was used.

$$\text{Dose}_{\text{AIR,per age group}} = (C_{\text{air}} \times EF \times [\frac{BR}{BW}] \times A \times CF)$$

Where:

Dose_{AIR} = dose by inhalation (mg/kg-day), per age group
C_{air} = concentration of contaminant in air ($\mu g/m^3$)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg-day)

A	=	inhalation absorption factor (default = 1)
CF	=	conversion factor (1×10^{-6}, μg to mg, L to m^3)

The inhalation absorption factor (A) is a unitless factor that is only used if the cancer potency factor included a correction for absorption across the lung. The default value of 1 was used for this assessment. For residential receptors, the exposure frequency (EF) of 0.96 is used to represent 350 days per year to allow for a two-week period away from home each year (OEHHA, 2015). The 95th percentile daily breathing rates (BR/BW), exposure duration (ED), age sensitivity factors (ASFs), and fraction of time at home (FAH) for the various age groups are provided herein:

Age Groups	BR/BW (L/kg-day)	ED	ASF	FAH
Third trimester	361	0.25	10	0.85
0-2 age group	1,090	2	10	0.85
2-9 age group	861	7	3	0.72
2-16 age group	745	14	3	0.72
16-30 age group	335	14	1	0.73
16-70 age group	290	54	1	0.73

For construction analysis, the exposure duration spans the length of construction (e.g., 395 work days, approximately 1.5 years). As the length of construction is less than 2 years, only the third trimester and 0-2 age bins apply to the construction analysis for the off-site residential receptors.

To represent the unique characteristics of high school student and preschool populations, the assessment employed the USEPA's guidance to develop viable dose estimates based on reasonable maximum exposure, defined as the "highest exposure that is reasonably expected to occur" for a given receptor population. Lifetime risk values for the population at Sunflower Learning Center were adjusted to account for an exposure of 250 days per year (age 2 to 5 years). In addition, the calculated risk for children is multiplied by an ASF weighting factor of 3 (for children ages 2 to 5) to account for early life sensitivity to pollutant exposures (OEHHA, 2015). Lifetime risk values for the high school student population were adjusted to account for an exposure of 180 days per year for 4 years (9th to 12th grade). In addition, the calculated risk for students is multiplied by an ASF weighting factor of 3 (for children ages 2 to 16) to account for early life sensitivity to pollutant exposures (OEHHA, 2015). To calculate the overall cancer risk, the risk for each appropriate age group is calculated per the following equation:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{AT}$$

Where:

Dose$_{\text{AIR}}$	=	dose by inhalation (mg/kg-day), per age group
CPF	=	cancer potency factor, chemical-specific (mg/kg-day)$^{-1}$
ASF	=	age sensitivity factor, per age group
FAH	=	fraction of time at home, per age group (for residential receptors only)
ED	=	exposure duration (years)
AT	=	averaging time period over which exposure duration is averaged (70 years)

The CPFs used in the assessment were obtained from OEHHA guidance. The excess lifetime cancer risks during the construction period to the maximally exposed resident were calculated based on the factors provided above. The cancer risks for each age group are summed to estimate the total cancer risk for each toxic chemical species. The final step converts the cancer risk in scientific notation to a whole number that expresses the cancer risk in "chances per million" by multiplying the cancer risk by a factor of 1×10^6 (i.e. 1 million).

The calculated results are provided in Appendix C.

1.5.2   Non-Carcinogenic Hazards

An evaluation was also conducted of the potential non-cancer effects of chronic chemical exposures. Adverse health effects are evaluated by comparing the annual receptor level (flagpole) concentration of each chemical compound with the appropriate reference exposure limit (REL). Available RELs promulgated by OEHHA were considered in the assessment.

The hazard index approach was used to quantify non-carcinogenic impacts. The hazard index assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). Target organs presented in regulatory guidance were used for each discrete chemical exposure. To calculate the hazard index, each chemical concentration or dose is divided by the appropriate toxicity value. This ratio is summed for compounds affecting the same toxicological endpoint. A health hazard is presumed to exist where the total equals or exceeds one.

The chronic hazard analysis for DPM is provided in Appendix C. The calculations contain the relevant exposure concentrations and corresponding reference dose values used in the evaluation of non-carcinogenic exposures.

1.5.3   Criteria Pollutants

The BAAQMD has recently incorporated $PM_{2.5}$ into the District's CEQA significance thresholds due to recent studies that show adverse health impacts from exposure to this pollutant. An incremental increase of greater than 0.3 $\mu g/m^3$ for the annual average $PM_{2.5}$ concentration is considered to be a significant impact.

1.6   CONSTRUCTION HRA RESULTS

The calculated results are provided in Appendix C and the results are summarized in Table 1.

TABLE 1. CONSTRUCTION RISK SUMMARY – UNMITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards	PM$_{2.5}$ (µg/m³)
Maximum Exposed Receptor – Off-site Resident	8.6	0.019	0.05
Sunflower Learning Center Preschool Student	0.3	0.003	0.01
Cupertino High School Student	0.3	0.006	0.01
BAAQMD Threshold	**10**	**1.0**	**0.30**
Exceeds Threshold?	**No**	**No**	**No**

Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

Cancer risk for the residential MER from project-related construction emissions was calculated to be 8.6 in a million, which would not exceed the 10 in a million significance threshold. In accordance with the latest 2015 OEHHA guidance, the calculated total cancer risk conservatively assumes that the risk for the residential MER consists of a pregnant woman in the third trimester that subsequently gives birth to an infant during the approximately 18-month construction period; therefore, all calculated residential risk values were multiplied by a factor of 10. In addition, it was conservatively assumed that the residents were outdoors 8 hours a day, 260-261 construction days per year and exposed to all of the daily construction emissions. In addition, the cancer risk for the maximum exposed preschool and high school receptor was calculated to be 0.3 in a million, for both, which would not exceed the significance threshold.

For non-carcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for all the off-site sensitive receptors. Therefore, chronic non-carcinogenic hazards are within acceptable limits. For the residential MER, the maximum annual PM$_{2.5}$ concentration of 0.05 µg/m³ would not exceed the BAAQMD significance threshold of 0.3 micrograms per cubic meter (µg/m³). In addition, the preschool and high school receptors' maximum annual PM$_{2.5}$ concentration of 0.01 µg/m³ each would also not exceed the BAAQMD significance threshold. Therefore, the project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions during construction and impacts would be *less than significant*.

2.   References

Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines.*

———. 2016. *Planning Healthy Places.* Dated May 2016.

———. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* Version 3.0. Dated May 2012.

———. 2010. Screening Tables for Air Toxics Evaluation During Construction. Version 1.0. Dated May 2010.

———. 2009-2013. Meteorological Data Set for Moffett Federal Airfield Airport.

California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model (CalEEMod). Version 2020.4. Prepared by: ENVIRON International Corporation and the California Air Districts.

California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.*

———. 2020. *Meteorological Files.* https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* Dated February 2015.

United States Environmental Protection Agency (USEPA). 2011. *Exposure Factors Handbook 2011 Edition (Final).* EPA/600/R-09/052F, 2011.

———. 2005. *Guideline on Air Quality Models* (Revised). EPA-450/2-78-027R.

Figure 1 - Project Site and Offsite Receptor Locations

Legend:
- Project Site
- Truck Route
- Maximum Exposed Receptor - Residential
- Maximum Exposed Receptor - Preschool
- Maximum Exposed Receptor - High School
- Receptors

Scale (Feet): 0 — 575
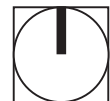
Source: Nearmap, 2021

PlaceWorks

Appendix A.   Emission Rate Calculations

Criteria Air Pollutant Emissions Summary - Construction Unmitigated

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each construction equipment is onsite.

Total Construction Days	2023	2024		Calendar Days
395	175	220		551

Unmigated Run - with Best Control Measures for Fugitive Dust

average lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5
Total	4	23	25	0	3.00	0.85	4	0.99	0.80
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No

Average Daily Emissions and Emission Rates

Onsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
2023	0.77	9.63E-02	1.21E-02
2024	0.83	1.04E-01	1.31E-02

Onsite Construction PM2.5 Exhaust Emissions[2]

	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)
	0.71	8.92E-02	1.12E-02
	0.79	9.86E-02	1.24E-02

Offsite Construction PM10 Exhaust Emissions[1]

Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day)[3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2023	5.85E-02	2.09E-03	2.62E-04	3.30E-05
2024	3.22E-02	1.15E-03	1.44E-04	1.81E-05

Offsite Construction PM2.5 Exhaust Emissions[2]

	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000ft (lbs/day)[3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
	5.58E-02	2.00E-03	2.49E-04	3.14E-05
	3.05E-02	1.09E-03	1.37E-04	1.72E-05

Note: Emissions evenly distributed over 52 modeled volume sources.

Year	Workdays	Risk Scalar[5]
2023	175	0.67
2024	220	0.84

Hauling Length (miles)	20	miles
Haul Length within 1,000 ft of Site (mile)[3]	0.72	miles
Hours per work day (7:00 AM to 4:00 PM, 1-hour of breaks)[4]	8	hours

[1] DPM emissions taken as PM$_{10}$ exhaust emissions from CalEEMod average daily emissions.

[2] PM$_{2.5}$ emissions taken as PM$_{2.5}$ exhaust emissions from CalEEMod average daily emissions.

[3] Emissions from CalEEMod offsite average daily emissions, which is based on proportioned haul truck trip distances, are adjusted to evaluate emissions from the 0.72-mile route within 1,000 of the project site.

[4] Work hours applied in By Hour/Day (HRDOW) variable emissions module in air dispersion model (see App B - Air Dispersion Model Output).

[5] Risk scalars determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App C - Risk Calculations).

Construction Emissions - DPM
Input to Risk Tables

tons/year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Unmitigated	0.73	4.59	4.95	0.01	0.59	0.17	0.76	0.19	0.16	0.35

UNMITIGATED (Onsite)

tons/year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	0.64	3.47	4.07	0.01	0.25	0.16	0.41	0.10	0.15	0.25
Total Offsite	0.09	1.12	0.88	0.01	0.34	0.01	0.35	0.09	0.01	0.10
check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FOR CONSTRUCTION RISK ASSESSMENT - Unmitigated Run

tons/year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2023 Onsite	0.15	1.50	1.35	0.00	0.25	0.07	0.32	0.10	0.06	0.16
2023 Offsite	0.02	0.64	0.24	0.00	0.10	0.01	0.11	0.03	0.00	0.03
2024 Onsite	0.49	1.97	2.72	0.00	0.00	0.09	0.09	0.00	0.09	0.09
2024 Offsite	0.07	0.48	0.65	0.00	0.24	0.00	0.24	0.07	0.00	0.07

FOR CONSTRUCTION REGIONAL EMISSIONS - Unmitigated Run

tons/year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2023	0.17	2.14	1.59	0.01	0.35	0.07	0.42	0.13	0.07	0.20
Total 2024	0.56	2.45	3.37	0.01	0.24	0.10	0.34	0.07	0.09	0.16
Construction Total	0.73	4.59	4.95	0.01	0.59	0.17	0.76	0.19	0.16	0.35
Check	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2 Demolition (Building + Asphalt) - 2023
Unmitigated Construction On-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00
Offroad	0.02	0.21	0.20	0.00		0.01	0.01		0.01	0.01
Total	0.02	0.21	0.20	0.00	0.00	0.01	0.01	0.00	0.01	0.01

Unmitigated Construction Off-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3 Building Demolition Debris Haul - 2023
Unmitigated Construction On-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling	0.00	0.04	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.04	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.4 Asphalt Demolition Debris Haul - 2023
Unmitigated Construction On-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					0.05	0.00	0.05	0.01	0.00	0.01
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01

Unmitigated Construction Off-Site

Category tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5 Site Preparation - 2023

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.02	0.00	0.02	0.01	0.00	0.01
Off-Road		0.01	0.07	0.05	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.07	0.05	0.00	0.02	0.00	0.02	0.01	0.00	0.01

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6 Rough Grading - 2023

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.03	0.00	0.03	0.01	0.00	0.01
Off-Road		0.02	0.18	0.15	0.00		0.01	0.01		0.01	0.01
Total		0.02	0.18	0.15	0.00	0.03	0.01	0.04	0.01	0.01	0.02

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7 Rough Grading Soil Haul - 2023

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.01	0.50	0.12	0.00	0.06	0.00	0.06	0.02	0.00	0.02
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.01	0.50	0.12	0.00	0.06	0.00	0.06	0.02	0.00	0.02

3.8 Fine Grading/Trenching - 2023

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.14	0.00	0.14	0.07	0.00	0.07
Off-Road		0.08	0.81	0.66	0.00		0.03	0.03		0.03	0.03
Total		0.08	0.81	0.66	0.00	0.14	0.03	0.17	0.07	0.03	0.10

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.9 Building Construction - 2023

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.03	0.23	0.30	0.00	0.00	0.01	0.01	0.00	0.01	0.01
Total		0.03	0.23	0.30	0.00	0.00	0.01	0.01	0.00	0.01	0.01

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.05	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Worker		0.01	0.00	0.06	0.00	0.02	0.00	0.02	0.01	0.00	0.01
Total		0.01	0.06	0.08	0.00	0.03	0.00	0.03	0.01	0.00	0.01

3.9 Building Construction - 2024

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.10	0.92	1.26	0.00	0.00	0.04	0.04	0.00	0.04	0.04
Total		0.10	0.92	1.26	0.00	0.00	0.04	0.04	0.00	0.04	0.04

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.01	0.22	0.07	0.00	0.03	0.00	0.03	0.01	0.00	0.01
Worker		0.03	0.02	0.24	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		0.03	0.23	0.31	0.00	0.12	0.00	0.12	0.03	0.00	0.03

3.10 Parking Structure Construction - 2024

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.11	0.97	1.34	0.00	0.00	0.05	0.05	0.00	0.04	0.04
Total		0.11	0.97	1.34	0.00	0.00	0.05	0.05	0.00	0.04	0.04

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.01	0.23	0.07	0.00	0.03	0.00	0.03	0.01	0.00	0.01
Worker		0.03	0.02	0.26	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		0.03	0.25	0.33	0.00	0.12	0.00	0.12	0.03	0.00	0.04

3.11 Paving - 2024

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.00					0.00	0.00		0.00	0.00
Total		0.01	0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12 Architectural Coating - 2024

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Architectural Coating		0.27				0.00	0.00	0.00	0.00	0.00	0.00
Off Road		0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.27	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13 Finishing/Landscaping - 2024

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total

Appendix B.   Air Dispersion Model Output

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                              ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                             ***        23:35:55
                                                                                                      PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                       ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


**Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses URBAN Dispersion Algorithm for the SBL for    53 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =   1928000.0 ;  Urban Roughness Length =  1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.


**Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Accepts FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  OTHER

**Model Calculates PERIOD Averages Only

**This Run Includes:     53 Source(s);       2 Source Group(s); and     384 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     52 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


**Model Set To Continue RUNning After the Setup Testing.
```

```
**The AERMET Input Meteorological Data Version Date:  14134

**Output Options Selected:
        Model Outputs Tables of PERIOD Averages by Receptor
        Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
        Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    11.90 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                              ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:         aermod.inp
**Output Print File:            aermod.out

**Detailed Error/Message File:  COCU-21.err
**File for Summary of Results:  COCU-21.sum
```

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                              ***      11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                             ***      23:35:55
                                                                                                    PAGE   2
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN
```

```
                                 *** VOLUME SOURCE DATA ***
```

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.19231E-01	588076.1	4131870.4	50.7	4.15	10.40	3.26	YES	HRDOW
L0000002	0	0.19231E-01	588075.6	4131848.1	50.8	4.15	10.40	3.26	YES	HRDOW
L0000003	0	0.19231E-01	588075.1	4131825.7	50.9	4.15	10.40	3.26	YES	HRDOW
L0000004	0	0.19231E-01	588074.6	4131803.4	51.1	4.15	10.40	3.26	YES	HRDOW
L0000005	0	0.19231E-01	588074.1	4131781.1	51.0	4.15	10.40	3.26	YES	HRDOW
L0000006	0	0.19231E-01	588073.6	4131758.7	51.5	4.15	10.40	3.26	YES	HRDOW
L0000007	0	0.19231E-01	588073.1	4131736.4	52.3	4.15	10.40	3.26	YES	HRDOW
L0000008	0	0.19231E-01	588072.6	4131714.0	53.0	4.15	10.40	3.26	YES	HRDOW
L0000009	0	0.19231E-01	588072.1	4131691.7	54.2	4.15	10.40	3.26	YES	HRDOW
L0000010	0	0.19231E-01	588071.6	4131669.3	55.5	4.15	10.40	3.26	YES	HRDOW
L0000011	0	0.19231E-01	588071.1	4131647.0	56.8	4.15	10.40	3.26	YES	HRDOW
L0000012	0	0.19231E-01	588070.6	4131624.6	58.1	4.15	10.40	3.26	YES	HRDOW
L0000013	0	0.19231E-01	588068.1	4131602.6	59.3	4.15	10.40	3.26	YES	HRDOW
L0000014	0	0.19231E-01	588061.1	4131581.4	57.5	4.15	10.40	3.26	YES	HRDOW
L0000015	0	0.19231E-01	588054.1	4131560.2	53.5	4.15	10.40	3.26	YES	HRDOW
L0000016	0	0.19231E-01	588047.1	4131539.0	53.7	4.15	10.40	3.26	YES	HRDOW
L0000017	0	0.19231E-01	588040.1	4131517.7	56.1	4.15	10.40	3.26	YES	HRDOW
L0000018	0	0.19231E-01	588033.1	4131496.5	59.8	4.15	10.40	3.26	YES	HRDOW
L0000019	0	0.19231E-01	588026.1	4131475.3	58.5	4.15	10.40	3.26	YES	HRDOW
L0000020	0	0.19231E-01	588019.7	4131454.0	58.2	4.15	10.40	3.26	YES	HRDOW
L0000021	0	0.19231E-01	588019.7	4131431.6	57.0	4.15	10.40	3.26	YES	HRDOW
L0000022	0	0.19231E-01	588019.7	4131409.3	55.8	4.15	10.40	3.26	YES	HRDOW
L0000023	0	0.19231E-01	588019.7	4131386.9	54.9	4.15	10.40	3.26	YES	HRDOW
L0000024	0	0.19231E-01	588019.7	4131364.6	54.3	4.15	10.40	3.26	YES	HRDOW
L0000025	0	0.19231E-01	588019.7	4131342.2	53.9	4.15	10.40	3.26	YES	HRDOW
L0000026	0	0.19231E-01	588019.7	4131319.9	54.0	4.15	10.40	3.26	YES	HRDOW
L0000027	0	0.19231E-01	588000.6	4131316.5	54.0	4.15	10.40	3.26	YES	HRDOW
L0000028	0	0.19231E-01	587978.2	4131316.2	54.1	4.15	10.40	3.26	YES	HRDOW
L0000029	0	0.19231E-01	587955.9	4131316.0	54.1	4.15	10.40	3.26	YES	HRDOW
L0000030	0	0.19231E-01	587933.5	4131315.7	54.1	4.15	10.40	3.26	YES	HRDOW
L0000031	0	0.19231E-01	587911.2	4131315.5	54.2	4.15	10.40	3.26	YES	HRDOW
L0000032	0	0.19231E-01	587888.8	4131315.2	54.2	4.15	10.40	3.26	YES	HRDOW
L0000033	0	0.19231E-01	587868.6	4131323.0	54.4	4.15	10.40	3.26	YES	HRDOW
L0000034	0	0.19231E-01	587849.4	4131334.4	54.4	4.15	10.40	3.26	YES	HRDOW
L0000035	0	0.19231E-01	587830.2	4131345.8	54.4	4.15	10.40	3.26	YES	HRDOW
L0000036	0	0.19231E-01	587810.9	4131357.1	54.5	4.15	10.40	3.26	YES	HRDOW
L0000037	0	0.19231E-01	587791.7	4131368.5	54.6	4.15	10.40	3.26	YES	HRDOW
L0000038	0	0.19231E-01	587772.4	4131379.9	54.7	4.15	10.40	3.26	YES	HRDOW

```
L0000039      0  0.19231E-01  587753.2 4131391.2   54.8    4.15   10.40   3.26   YES   HRDOW
L0000040      0  0.19231E-01  587734.0 4131402.6   54.9    4.15   10.40   3.26   YES   HRDOW
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                            ***     11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                           ***     23:35:55
                                                                                          PAGE    3

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000041	0	0.19231E-01	587714.7	4131414.0	55.2	4.15	10.40	3.26	YES	HRDOW
L0000042	0	0.19231E-01	587695.5	4131425.3	55.0	4.15	10.40	3.26	YES	HRDOW
L0000043	0	0.19231E-01	587675.7	4131435.5	55.2	4.15	10.40	3.26	YES	HRDOW
L0000044	0	0.19231E-01	587653.9	4131440.2	55.3	4.15	10.40	3.26	YES	HRDOW
L0000045	0	0.19231E-01	587632.0	4131444.9	55.4	4.15	10.40	3.26	YES	HRDOW
L0000046	0	0.19231E-01	587610.2	4131449.7	55.4	4.15	10.40	3.26	YES	HRDOW
L0000047	0	0.19231E-01	587588.4	4131454.4	55.4	4.15	10.40	3.26	YES	HRDOW
L0000048	0	0.19231E-01	587566.0	4131453.6	55.4	4.15	10.40	3.26	YES	HRDOW
L0000049	0	0.19231E-01	587543.7	4131452.6	55.5	4.15	10.40	3.26	YES	HRDOW
L0000050	0	0.19231E-01	587521.4	4131451.7	55.7	4.15	10.40	3.26	YES	HRDOW
L0000051	0	0.19231E-01	587499.0	4131450.8	55.8	4.15	10.40	3.26	YES	HRDOW
L0000052	0	0.19231E-01	587476.7	4131449.9	55.9	4.15	10.40	3.26	YES	HRDOW

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                            ***     11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                           ***     23:35:55
                                                                                          PAGE    4

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN
```

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
1	0	0.33139E-04	587803.8	4131377.5	53.8	4.15	13	1.93	YES	HRDOW

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                     ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                    ***        23:35:55
                                                                                                             PAGE    5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                       SOURCE IDs
-----------                                       ----------


  ONSITE       1             ,

  OFFSITE    L0000001   , L0000002   , L0000003   , L0000004   , L0000005   , L0000006   , L0000007   , L0000008   ,
             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   , L0000014   , L0000015   , L0000016   ,
             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   , L0000022   , L0000023   , L0000024   ,
             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   , L0000030   , L0000031   , L0000032   ,
             L0000033   , L0000034   , L0000035   , L0000036   , L0000037   , L0000038   , L0000039   , L0000040   ,
             L0000041   , L0000042   , L0000043   , L0000044   , L0000045   , L0000046   , L0000047   , L0000048   ,
             L0000049   , L0000050   , L0000051   , L0000052   ,
```
```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                     ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                    ***        23:35:55
                                                                                                             PAGE    6
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** SOURCE IDs DEFINED AS URBAN SOURCES ***

 URBAN ID   URBAN POP                             SOURCE IDs
 --------   ---------                             ----------


            1928000.  1           , L0000001   , L0000002   , L0000003   , L0000004   , L0000005   , L0000006   ,
L0000007   ,

            L0000008   , L0000009   , L0000010   , L0000011   , L0000012   , L0000013   , L0000014   , L0000015   ,
            L0000016   , L0000017   , L0000018   , L0000019   , L0000020   , L0000021   , L0000022   , L0000023   ,
            L0000024   , L0000025   , L0000026   , L0000027   , L0000028   , L0000029   , L0000030   , L0000031   ,
            L0000032   , L0000033   , L0000034   , L0000035   , L0000036   , L0000037   , L0000038   , L0000039   ,
            L0000040   , L0000041   , L0000042   , L0000043   , L0000044   , L0000045   , L0000046   , L0000047   ,
            L0000048   , L0000049   , L0000050   , L0000051   , L0000052   ,
```

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                      ***          11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                     ***          23:35:55
                                                                                                               PAGE   7
*** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN

               * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = 1            ; SOURCE TYPE = AREAPOLY :
  HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .0000E+00   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00


*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                      ***          11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                     ***          23:35:55
                                                                                                               PAGE   8
*** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN

               * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000001 through L0000052   ; SOURCE TYPE = VOLUME   :
  HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR    HOUR    SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .0000E+00   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                          ***      11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                         ***      23:35:55
                                                                                                 PAGE  60

*** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                       *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)


           ( 587475.6, 4131374.7,      53.6,       53.6,       1.5);     ( 587495.6, 4131374.7,      53.6,       53.6,       1.5);
           ( 587515.6, 4131374.7,      53.6,       53.6,       1.5);     ( 587535.6, 4131374.7,      53.6,       53.6,       1.5);
           ( 587555.6, 4131374.7,      53.7,       53.7,       1.5);     ( 587575.6, 4131374.7,      53.6,       53.6,       1.5);
           ( 587575.6, 4131394.7,      53.5,       53.5,       1.5);     ( 587448.8, 4131190.8,      58.9,       58.9,       1.5);
           ( 587468.8, 4131190.8,      58.5,       58.5,       1.5);     ( 587503.2, 4131193.9,      58.1,       58.1,       1.5);
           ( 587523.2, 4131193.9,      58.2,       58.2,       1.5);     ( 587539.1, 4131193.9,      58.0,       58.0,       1.5);
           ( 587448.8, 4131210.8,      58.8,       58.8,       1.5);     ( 587468.8, 4131210.8,      58.3,       58.3,       1.5);
           ( 587503.2, 4131210.8,      58.0,       58.0,       1.5);     ( 587523.2, 4131210.8,      58.6,       58.6,       1.5);
           ( 587539.1, 4131210.8,      58.2,       58.2,       1.5);     ( 587539.1, 4131230.8,      58.3,       58.3,       1.5);
           ( 587503.2, 4131250.8,      58.0,       58.0,       1.5);     ( 587523.2, 4131250.8,      58.7,       58.7,       1.5);
           ( 587539.1, 4131250.8,      58.2,       58.2,       1.5);     ( 587503.2, 4131270.8,      58.2,       58.2,       1.5);
           ( 587523.2, 4131270.8,      58.8,       58.8,       1.5);     ( 587539.1, 4131270.8,      58.2,       58.2,       1.5);
           ( 587483.2, 4131290.8,      58.0,       58.0,       1.5);     ( 587523.2, 4131290.8,      58.8,       58.8,       1.5);
           ( 587539.1, 4131290.8,      58.2,       58.2,       1.5);     ( 587483.2, 4131310.8,      57.6,       57.6,       1.5);
           ( 587503.2, 4131310.8,      58.2,       58.8,       1.5);     ( 587523.2, 4131310.8,      58.1,       58.1,       1.5);
           ( 587539.1, 4131310.8,      57.6,       57.6,       1.5);     ( 587483.7, 4131327.2,      55.4,       58.8,       1.5);
           ( 587503.7, 4131327.2,      55.7,       58.8,       1.5);     ( 587523.7, 4131327.2,      55.6,       58.8,       1.5);
           ( 587539.6, 4131327.2,      55.4,       58.7,       1.5);     ( 587931.5, 4131080.4,      56.4,       56.4,       1.5);
           ( 587951.5, 4131080.4,      56.5,       56.5,       1.5);     ( 587971.5, 4131080.4,      56.3,       56.3,       1.5);
           ( 587991.5, 4131080.4,      56.1,       56.1,       1.5);     ( 588011.5, 4131080.4,      55.9,       55.9,       1.5);
           ( 587915.3, 4131095.4,      56.3,       56.3,       1.5);     ( 587932.1, 4131095.7,      56.4,       56.4,       1.5);
           ( 587952.1, 4131095.7,      56.7,       56.7,       1.5);     ( 587972.1, 4131095.7,      56.3,       56.3,       1.5);
           ( 587992.1, 4131095.7,      56.0,       56.0,       1.5);     ( 588012.1, 4131095.7,      55.8,       55.8,       1.5);
           ( 587914.3, 4131111.3,      56.3,       56.3,       1.5);     ( 587931.2, 4131111.6,      56.4,       56.4,       1.5);
           ( 587951.2, 4131111.6,      56.7,       56.7,       1.5);     ( 587991.2, 4131111.6,      55.9,       55.9,       1.5);
           ( 588011.2, 4131111.6,      55.7,       55.7,       1.5);     ( 587914.3, 4131131.3,      56.3,       56.3,       1.5);
           ( 587475.6, 4131374.7,      53.6,       53.6,       6.1);     ( 587495.6, 4131374.7,      53.6,       53.6,       6.1);
           ( 587515.6, 4131374.7,      53.6,       53.6,       6.1);     ( 587535.6, 4131374.7,      53.6,       53.6,       6.1);
           ( 587555.6, 4131374.7,      53.7,       53.7,       6.1);     ( 587575.6, 4131374.7,      53.6,       53.6,       6.1);
           ( 587575.6, 4131394.7,      53.5,       53.5,       6.1);     ( 587475.6, 4131414.7,      54.7,       54.7,       6.1);
           ( 587495.6, 4131414.7,      54.5,       54.5,       6.1);     ( 587515.6, 4131414.7,      54.5,       54.5,       6.1);
           ( 587535.6, 4131414.7,      54.5,       54.5,       6.1);     ( 587555.6, 4131414.7,      54.5,       54.5,       6.1);
           ( 587575.6, 4131414.7,      54.4,       54.4,       6.1);     ( 587625.6, 4131344.9,      56.4,       56.4,       6.1);
           ( 587645.6, 4131344.9,      56.1,       56.1,       6.1);     ( 587665.6, 4131344.9,      55.7,       55.7,       6.1);
           ( 587609.7, 4131364.9,      54.7,       54.7,       6.1);     ( 587625.6, 4131364.9,      56.3,       56.3,       6.1);
           ( 587610.9, 4131345.0,      55.1,       55.1,       6.1);     ( 587644.7, 4131357.8,      56.1,       56.1,       6.1);
           ( 587609.7, 4131384.9,      54.6,       54.6,       6.1);     ( 587625.6, 4131384.9,      56.2,       56.2,       6.1);
           ( 587646.1, 4131387.0,      56.1,       56.1,       6.1);     ( 587665.6, 4131384.9,      55.9,       55.9,       6.1);
           ( 587685.6, 4131384.9,      55.5,       55.5,       6.1);     ( 587609.7, 4131404.9,      54.7,       54.7,       6.1);
           ( 587625.6, 4131404.9,      56.0,       56.0,       6.1);     ( 587645.6, 4131404.9,      55.9,       55.9,       6.1);
           ( 587665.6, 4131404.9,      55.8,       55.8,       6.1);     ( 587448.8, 4131190.8,      58.9,       58.9,       6.1);
           ( 587468.8, 4131190.8,      58.5,       58.5,       6.1);     ( 587503.2, 4131193.9,      58.1,       58.1,       6.1);
```

```
     ( 587523.2, 4131193.9,      58.2,      58.2,       6.1);        ( 587539.1, 4131193.9,      58.0,      58.0,       6.1);
     ( 587448.8, 4131210.8,      58.8,      58.8,       6.1);        ( 587468.8, 4131210.8,      58.3,      58.3,       6.1);
     ( 587503.2, 4131210.8,      58.0,      58.0,       6.1);        ( 587523.2, 4131210.8,      58.6,      58.6,       6.1);
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                           ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                          ***       23:35:55
                                                                                                                   PAGE  61

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** DISCRETE CARTESIAN RECEPTORS ***
                             (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                          (METERS)


     ( 587539.1, 4131210.8,      58.2,      58.2,       6.1);        ( 587539.1, 4131230.8,      58.3,      58.3,       6.1);
     ( 587503.2, 4131250.8,      58.0,      58.0,       6.1);        ( 587523.2, 4131250.8,      58.7,      58.7,       6.1);
     ( 587539.1, 4131250.8,      58.2,      58.2,       6.1);        ( 587503.2, 4131270.8,      58.2,      58.2,       6.1);
     ( 587523.2, 4131270.8,      58.8,      58.8,       6.1);        ( 587539.1, 4131270.8,      58.2,      58.2,       6.1);
     ( 587483.2, 4131290.8,      58.0,      58.0,       6.1);        ( 587523.2, 4131290.8,      58.8,      58.8,       6.1);
     ( 587539.1, 4131290.8,      58.2,      58.2,       6.1);        ( 587483.2, 4131310.8,      57.6,      57.6,       6.1);
     ( 587503.2, 4131310.8,      58.2,      58.8,       6.1);        ( 587523.2, 4131310.8,      58.1,      58.1,       6.1);
     ( 587539.1, 4131310.8,      57.6,      57.6,       6.1);        ( 587483.7, 4131327.2,      55.4,      58.8,       6.1);
     ( 587503.7, 4131327.2,      55.7,      58.8,       6.1);        ( 587523.7, 4131327.2,      55.6,      58.8,       6.1);
     ( 587539.6, 4131327.2,      55.4,      58.7,       6.1);        ( 587931.5, 4131080.4,      56.4,      56.4,       6.1);
     ( 587951.5, 4131080.4,      56.5,      56.5,       6.1);        ( 587971.5, 4131080.4,      56.3,      56.3,       6.1);
     ( 587991.5, 4131080.4,      56.1,      56.1,       6.1);        ( 588011.5, 4131080.4,      55.9,      55.9,       6.1);
     ( 587915.3, 4131095.4,      56.3,      56.3,       6.1);        ( 587932.1, 4131095.7,      56.4,      56.4,       6.1);
     ( 587952.1, 4131095.7,      56.7,      56.7,       6.1);        ( 587972.1, 4131095.7,      56.3,      56.3,       6.1);
     ( 587992.1, 4131095.7,      56.0,      56.0,       6.1);        ( 588012.1, 4131095.7,      55.8,      55.8,       6.1);
     ( 587914.3, 4131111.3,      56.3,      56.3,       6.1);        ( 587931.2, 4131111.6,      56.4,      56.4,       6.1);
     ( 587951.2, 4131111.6,      56.7,      56.7,       6.1);        ( 587991.2, 4131111.6,      55.9,      55.9,       6.1);
     ( 588011.2, 4131111.6,      55.7,      55.7,       6.1);        ( 587914.3, 4131131.3,      56.3,      56.3,       6.1);
     ( 587931.2, 4131131.6,      56.4,      56.4,       6.1);        ( 587951.2, 4131131.6,      56.6,      56.6,       6.1);
     ( 587970.9, 4131133.8,      56.0,      56.0,       6.1);        ( 587931.5, 4131146.0,      56.3,      56.3,       6.1);
     ( 587951.5, 4131146.0,      56.3,      56.3,       6.1);        ( 587971.5, 4131146.0,      56.0,      56.0,       6.1);
     ( 587475.6, 4131374.7,      53.6,      53.6,       9.1);        ( 587495.6, 4131374.7,      53.6,      53.6,       9.1);
     ( 587515.6, 4131374.7,      53.6,      53.6,       9.1);        ( 587535.6, 4131374.7,      53.6,      53.6,       9.1);
     ( 587555.6, 4131374.7,      53.7,      53.7,       9.1);        ( 587575.6, 4131374.7,      53.6,      53.6,       9.1);
     ( 587575.6, 4131394.7,      53.5,      53.5,       9.1);        ( 587475.6, 4131414.7,      54.7,      54.7,       9.1);
     ( 587495.6, 4131414.7,      54.5,      54.5,       9.1);        ( 587515.6, 4131414.7,      54.5,      54.5,       9.1);
     ( 587535.6, 4131414.7,      54.5,      54.5,       9.1);        ( 587555.6, 4131414.7,      54.5,      54.5,       9.1);
     ( 587575.6, 4131414.7,      54.4,      54.4,       9.1);        ( 587625.6, 4131344.9,      56.4,      56.4,       9.1);
     ( 587645.6, 4131344.9,      56.1,      56.1,       9.1);        ( 587665.6, 4131344.9,      55.7,      55.7,       9.1);
     ( 587609.7, 4131364.9,      54.7,      54.7,       9.1);        ( 587625.6, 4131364.9,      56.3,      56.3,       9.1);
     ( 587610.9, 4131345.0,      55.1,      55.1,       9.1);        ( 587644.7, 4131357.8,      56.1,      56.1,       9.1);
     ( 587609.7, 4131384.9,      54.6,      54.6,       9.1);        ( 587625.6, 4131384.9,      56.2,      56.2,       9.1);
     ( 587646.1, 4131387.0,      56.1,      56.1,       9.1);        ( 587665.6, 4131384.9,      55.9,      55.9,       9.1);
     ( 587685.6, 4131384.9,      55.5,      55.5,       9.1);        ( 587609.7, 4131404.9,      54.7,      54.7,       9.1);
     ( 587625.6, 4131404.9,      56.0,      56.0,       9.1);        ( 587645.6, 4131404.9,      55.9,      55.9,       9.1);
     ( 587665.6, 4131404.9,      55.8,      55.8,       9.1);        ( 587448.8, 4131190.8,      58.9,      58.9,       9.1);
     ( 587468.8, 4131190.8,      58.5,      58.5,       9.1);        ( 587503.2, 4131193.9,      58.1,      58.1,       9.1);
     ( 587523.2, 4131193.9,      58.2,      58.2,       9.1);        ( 587539.1, 4131193.9,      58.0,      58.0,       9.1);
     ( 587448.8, 4131210.8,      58.8,      58.8,       9.1);        ( 587468.8, 4131210.8,      58.3,      58.3,       9.1);
```

```
Model Output
Unit Emission Rates (1 g/s)


        ( 587503.2, 4131210.8,     58.0,      58.0,      9.1);        ( 587523.2, 4131210.8,     58.6,      58.6,      9.1);
        ( 587539.1, 4131210.8,     58.2,      58.2,      9.1);        ( 587539.1, 4131230.8,     58.3,      58.3,      9.1);
        ( 587503.2, 4131250.8,     58.0,      58.0,      9.1);        ( 587523.2, 4131250.8,     58.7,      58.7,      9.1);
        ( 587539.1, 4131250.8,     58.2,      58.2,      9.1);        ( 587503.2, 4131270.8,     58.2,      58.2,      9.1);
        ( 587523.2, 4131270.8,     58.8,      58.8,      9.1);        ( 587539.1, 4131270.8,     58.2,      58.2,      9.1);
        ( 587483.2, 4131290.8,     58.0,      58.0,      9.1);        ( 587523.2, 4131290.8,     58.8,      58.8,      9.1);
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                    ***     11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                   ***     23:35:55
                                                                                                         PAGE  62

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** DISCRETE CARTESIAN RECEPTORS ***
                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                       (METERS)


        ( 587539.1, 4131290.8,     58.2,      58.2,      9.1);        ( 587483.2, 4131310.8,     57.6,      57.6,      9.1);
        ( 587503.2, 4131310.8,     58.2,      58.8,      9.1);        ( 587523.2, 4131310.8,     58.1,      58.1,      9.1);
        ( 587539.1, 4131310.8,     57.6,      57.6,      9.1);        ( 587483.7, 4131327.2,     55.4,      58.8,      9.1);
        ( 587503.7, 4131327.2,     55.7,      58.8,      9.1);        ( 587523.7, 4131327.2,     55.6,      58.8,      9.1);
        ( 587539.6, 4131327.2,     55.4,      58.7,      9.1);        ( 587931.5, 4131080.4,     56.4,      56.4,      9.1);
        ( 587951.5, 4131080.4,     56.5,      56.5,      9.1);        ( 587971.5, 4131080.4,     56.3,      56.3,      9.1);
        ( 587991.5, 4131080.4,     56.1,      56.1,      9.1);        ( 588011.5, 4131080.4,     55.9,      55.9,      9.1);
        ( 587915.3, 4131095.4,     56.3,      56.3,      9.1);        ( 587932.1, 4131095.7,     56.4,      56.4,      9.1);
        ( 587952.1, 4131095.7,     56.7,      56.7,      9.1);        ( 587972.1, 4131095.7,     56.3,      56.3,      9.1);
        ( 587992.1, 4131095.7,     56.0,      56.0,      9.1);        ( 588012.1, 4131095.7,     55.8,      55.8,      9.1);
        ( 587914.3, 4131111.3,     56.3,      56.3,      9.1);        ( 587931.2, 4131111.6,     56.4,      56.4,      9.1);
        ( 587951.2, 4131111.6,     56.7,      56.7,      9.1);        ( 587991.2, 4131111.6,     55.9,      55.9,      9.1);
        ( 588011.2, 4131111.6,     55.7,      55.7,      9.1);        ( 587914.3, 4131131.3,     56.3,      56.3,      9.1);
        ( 587931.2, 4131131.6,     56.4,      56.4,      9.1);        ( 587951.2, 4131131.6,     56.6,      56.6,      9.1);
        ( 587970.9, 4131133.8,     56.0,      56.0,      9.1);        ( 587931.5, 4131146.0,     56.3,      56.3,      9.1);
        ( 587951.5, 4131146.0,     56.3,      56.3,      9.1);        ( 587971.5, 4131146.0,     56.0,      56.0,      9.1);
        ( 588188.7, 4131100.6,     54.8,      54.8,      1.5);        ( 588185.5, 4131072.1,     55.2,      55.2,      1.5);
        ( 588150.7, 4131051.0,     55.5,      55.5,      1.5);        ( 588089.7, 4131050.2,     55.7,      55.7,      1.5);
        ( 588238.4, 4131100.6,     54.7,      54.7,      1.5);        ( 588236.2, 4131072.1,     54.8,      54.8,      1.5);
        ( 588089.4, 4131023.5,     56.0,      56.0,      1.5);        ( 588183.4, 4131025.6,     55.5,      55.5,      1.5);
        ( 588294.8, 4131692.7,     50.8,      50.8,      1.5);        ( 588280.7, 4131734.3,     50.5,      50.5,      1.5);
        ( 588303.0, 4131768.7,     50.3,      50.3,      1.5);        ( 588309.1, 4131813.2,     50.1,      50.1,      1.5);
        ( 588347.5, 4131768.0,     50.0,      50.0,      1.5);        ( 588367.1, 4131769.4,     49.9,      49.9,      1.5);
        ( 588343.9, 4131738.8,     50.3,      50.3,      1.5);        ( 588365.3, 4131736.3,     50.1,      50.1,      1.5);
        ( 588188.7, 4131100.6,     54.8,      54.8,      6.1);        ( 588185.5, 4131072.1,     55.2,      55.2,      6.1);
        ( 588150.7, 4131051.0,     55.5,      55.5,      6.1);        ( 588089.7, 4131050.2,     55.7,      55.7,      6.1);
        ( 588236.2, 4131072.1,     54.8,      54.8,      6.1);        ( 588089.4, 4131023.5,     56.0,      56.0,      6.1);
        ( 588183.4, 4131025.6,     55.5,      55.5,      6.1);        ( 588294.8, 4131692.7,     50.8,      50.8,      6.1);
        ( 588280.7, 4131734.3,     50.5,      50.5,      6.1);        ( 588303.0, 4131768.7,     50.3,      50.3,      6.1);
        ( 588309.1, 4131813.2,     50.1,      50.1,      6.1);        ( 588347.5, 4131768.0,     50.0,      50.0,      6.1);
        ( 588367.1, 4131769.4,     49.9,      49.9,      6.1);        ( 588343.9, 4131738.8,     50.3,      50.3,      6.1);
        ( 588365.3, 4131736.3,     50.1,      50.1,      6.1);        ( 587562.3, 4131060.3,     58.0,      58.0,      1.5);
        ( 587572.8, 4131048.4,     58.1,      58.1,      1.5);        ( 587603.0, 4131053.9,     58.2,      58.2,      1.5);
        ( 587626.7, 4131048.8,     57.8,      57.8,      1.5);        ( 587650.4, 4131060.1,     58.2,      58.2,      1.5);
        ( 587570.8, 4131067.8,     57.4,      57.4,      1.5);        ( 587588.7, 4131066.8,     57.6,      57.6,      1.5);
        ( 587551.4, 4131044.8,     58.6,      58.6,      1.5);        ( 587618.5, 4131070.5,     57.9,      57.9,      1.5);
```

Model Output
Unit Emission Rates (1 g/s)

```
    ( 587638.5, 4131070.5,      57.8,      57.8,      1.5);        ( 587562.3, 4131060.3,      58.0,      58.0,      6.1);
    ( 587572.8, 4131048.4,      58.1,      58.1,      6.1);        ( 587603.0, 4131053.9,      58.2,      58.2,      6.1);
    ( 587626.7, 4131048.8,      57.8,      57.8,      6.1);        ( 587650.4, 4131060.1,      58.2,      58.2,      6.1);
    ( 587570.8, 4131067.8,      57.4,      57.4,      6.1);        ( 587588.7, 4131066.8,      57.6,      57.6,      6.1);
    ( 587551.4, 4131044.8,      58.6,      58.6,      6.1);        ( 587618.5, 4131070.5,      57.9,      57.9,      6.1);
    ( 587638.5, 4131070.5,      57.8,      57.8,      6.1);        ( 587567.4, 4130993.3,      59.0,      59.0,      1.5);
    ( 587587.4, 4130993.3,      59.1,      59.1,      1.5);        ( 587607.4, 4130993.3,      58.9,      58.9,      1.5);
    ( 587627.4, 4130993.3,      58.8,      58.8,      1.5);        ( 587647.4, 4130993.3,      58.7,      58.7,      1.5);
    ( 587587.4, 4131013.3,      58.7,      58.7,      1.5);        ( 587607.4, 4131013.3,      58.5,      58.5,      1.5);
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                   ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                  ***        23:35:55
                                                                                                            PAGE  63

*** MODELOPTs:     RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** DISCRETE CARTESIAN RECEPTORS ***
                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                          (METERS)


    ( 587627.4, 4131013.3,      58.4,      58.4,      1.5);        ( 587647.4, 4131013.3,      58.3,      58.3,      1.5);
    ( 587544.2, 4131029.6,      59.1,      59.1,      1.5);        ( 587913.0, 4130951.1,      57.5,      57.5,      1.5);
    ( 587933.0, 4130951.1,      57.5,      57.5,      1.5);        ( 587953.0, 4130951.1,      57.3,      57.3,      1.5);
    ( 587973.0, 4130951.1,      57.2,      57.2,      1.5);        ( 587993.0, 4130951.1,      57.1,      57.1,      1.5);
    ( 588013.0, 4130951.1,      56.8,      56.8,      1.5);        ( 587913.0, 4130971.1,      57.3,      57.3,      1.5);
    ( 587933.0, 4130971.1,      57.3,      57.3,      1.5);        ( 587953.0, 4130971.1,      57.2,      57.2,      1.5);
    ( 587973.0, 4130971.1,      57.3,      57.3,      1.5);        ( 587993.0, 4130971.1,      57.0,      57.0,      1.5);
    ( 587913.0, 4130991.1,      57.1,      57.1,      1.5);        ( 587953.0, 4130991.1,      56.9,      56.9,      1.5);
    ( 587973.0, 4130991.1,      56.9,      56.9,      1.5);        ( 587993.0, 4130991.1,      56.7,      56.7,      1.5);
    ( 588013.0, 4130991.1,      56.5,      56.5,      1.5);        ( 587913.0, 4131011.1,      56.9,      56.9,      1.5);
    ( 587973.0, 4131015.9,      56.7,      56.7,      1.5);        ( 587993.0, 4131015.9,      56.5,      56.5,      1.5);
    ( 587913.0, 4131031.1,      56.8,      56.8,      1.5);        ( 587933.0, 4131031.1,      57.0,      57.0,      1.5);
    ( 587952.4, 4131026.8,      56.9,      56.9,      1.5);        ( 587973.0, 4131031.1,      56.8,      56.8,      1.5);
    ( 587993.0, 4131031.1,      56.5,      56.5,      1.5);        ( 588013.0, 4131031.1,      56.2,      56.2,      1.5);
    ( 587913.0, 4131051.1,      56.7,      56.7,      1.5);        ( 587933.0, 4131051.1,      56.7,      56.7,      1.5);
    ( 587952.4, 4131046.8,      56.7,      56.7,      1.5);        ( 587973.0, 4131051.1,      56.5,      56.5,      1.5);
    ( 587993.0, 4131051.1,      56.3,      56.3,      1.5);        ( 588013.0, 4131051.1,      56.1,      56.1,      1.5);
    ( 588049.9, 4131046.9,      56.0,      56.0,      1.5);        ( 588049.4, 4131027.7,      56.2,      56.2,      1.5);
    ( 588049.9, 4131003.4,      56.5,      56.5,      1.5);        ( 588049.4, 4130981.1,      56.6,      56.6,      1.5);
    ( 588092.7, 4131003.0,      56.3,      56.3,      1.5);        ( 588095.2, 4130977.8,      56.3,      56.3,      1.5);
    ( 588144.6, 4131003.4,      55.9,      55.9,      1.5);        ( 588145.0, 4131030.1,      55.8,      55.8,      1.5);
    ( 588190.4, 4131005.0,      55.6,      55.6,      1.5);        ( 588147.1, 4130976.6,      56.2,      56.2,      1.5);
    ( 588188.3, 4130984.4,      55.8,      55.8,      1.5);        ( 588143.0, 4130960.9,      56.3,      56.3,      1.5);
    ( 588182.1, 4130960.9,      56.0,      56.0,      1.5);        ( 588236.5, 4131050.3,      55.1,      55.1,      1.5);
    ( 588274.4, 4131050.8,      54.7,      54.7,      1.5);        ( 588272.8, 4131067.6,      54.7,      54.7,      1.5);
    ( 588236.9, 4131030.6,      55.3,      55.3,      1.5);        ( 588272.0, 4131033.0,      54.8,      54.8,      1.5);
    ( 588187.2, 4131685.3,      51.6,      51.6,      1.5);        ( 588261.5, 4131688.7,      51.2,      51.2,      1.5);
    ( 588187.2, 4131705.3,      51.4,      51.4,      1.5);        ( 588234.2, 4131688.8,      51.2,      51.2,      1.5);
    ( 588282.1, 4131763.9,      50.4,      50.4,      1.5);        ( 588187.2, 4131725.3,      51.3,      51.3,      1.5);
    ( 588319.6, 4131735.2,      50.3,      50.3,      1.5);        ( 588301.5, 4131734.4,      50.4,      50.4,      1.5);
    ( 588187.2, 4131745.3,      51.2,      51.2,      1.5);        ( 588259.0, 4131734.6,      50.7,      50.7,      1.5);
    ( 588187.2, 4131765.3,      50.9,      50.9,      1.5);        ( 588231.8, 4131736.0,      50.6,      50.6,      1.5);
    ( 588259.5, 4131763.0,      50.8,      50.8,      1.5);        ( 588187.2, 4131785.3,      50.8,      50.8,      1.5);
```

```
     ( 588232.8, 4131760.3,       50.7,       50.7,       1.5);        ( 588259.5, 4131783.0,       50.7,       50.7,       1.5);
     ( 588187.2, 4131805.3,       50.7,       50.7,       1.5);        ( 588232.8, 4131780.3,       50.5,       50.5,       1.5);
     ( 588259.5, 4131803.0,       50.6,       50.6,       1.5);        ( 588187.2, 4131825.3,       50.5,       50.5,       1.5);
     ( 588232.8, 4131800.3,       50.5,       50.5,       1.5);        ( 588259.5, 4131823.0,       50.5,       50.5,       1.5);
     ( 588187.2, 4131845.3,       50.4,       50.4,       1.5);        ( 588232.8, 4131820.3,       50.4,       50.4,       1.5);
     ( 588259.5, 4131843.0,       50.3,       50.3,       1.5);        ( 588187.2, 4131865.3,       50.2,       50.2,       1.5);
     ( 588232.8, 4131840.3,       50.2,       50.2,       1.5);        ( 588259.5, 4131863.0,       50.0,       50.0,       1.5);
     ( 588232.8, 4131860.3,       50.0,       50.0,       1.5);        ( 587793.1, 4130952.3,       58.9,       58.9,       1.5);
     ( 587813.1, 4130952.3,       58.8,       58.8,       1.5);        ( 587833.1, 4130952.3,       58.8,       58.8,       1.5);
     ( 587728.4, 4130972.0,       59.0,       59.0,       1.5);        ( 587748.4, 4130972.0,       59.0,       59.0,       1.5);
     ( 587768.4, 4130972.0,       58.9,       58.9,       1.5);        ( 587710.5, 4130996.4,       59.0,       59.0,       1.5);
     ( 587763.3, 4130996.1,       58.7,       58.7,       1.5);        ( 587793.1, 4130992.3,       58.6,       58.6,       1.5);
*** AERMOD - VERSION  19191 ***    *** COCU-21 Construction HRA                                           ***       11/07/21
*** AERMET - VERSION  14134 ***    *** Cupertino                                                          ***       23:35:55
                                                                                                                    PAGE  64

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                              *** DISCRETE CARTESIAN RECEPTORS ***
                             (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                         (METERS)


     ( 587813.1, 4130992.3,       58.6,       58.6,       1.5);        ( 587833.1, 4130992.3,       58.6,       58.6,       1.5);
     ( 587710.5, 4131016.4,       58.7,       58.7,       1.5);        ( 587730.5, 4131016.4,       58.6,       58.6,       1.5);
     ( 587750.5, 4131016.4,       58.6,       58.6,       1.5);        ( 587770.5, 4131016.4,       58.5,       58.5,       1.5);
     ( 587793.1, 4131012.3,       58.3,       58.3,       1.5);        ( 587813.1, 4131012.3,       58.2,       58.2,       1.5);
     ( 587778.3, 4131103.8,       57.1,       57.1,       1.5);        ( 588280.5, 4131122.1,       54.3,       54.3,       1.5);
     ( 587859.4, 4130955.6,       58.6,       58.6,       1.5);        ( 587882.3, 4130971.5,       58.2,       58.2,       1.5);
     ( 587859.4, 4130975.6,       58.6,       58.6,       1.5);        ( 587882.3, 4130991.5,       58.2,       58.2,       1.5);
     ( 587859.8, 4131012.8,       58.1,       58.1,       1.5);        ( 587879.8, 4131012.8,       57.8,       57.8,       1.5);
     ( 587881.6, 4130954.0,       58.3,       58.3,       1.5);        ( 587859.4, 4130955.6,       58.6,       58.6,       6.1);
     ( 587882.3, 4130971.5,       58.2,       58.2,       6.1);        ( 587859.4, 4130975.6,       58.6,       58.6,       6.1);
     ( 587882.3, 4130991.5,       58.2,       58.2,       6.1);        ( 587859.8, 4131012.8,       58.1,       58.1,       6.1);
     ( 587879.8, 4131012.8,       57.8,       57.8,       6.1);        ( 587881.6, 4130954.0,       58.3,       58.3,       6.1);
```

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                               ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                              ***        23:35:55
                                                                                                        PAGE  65
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                              *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                            (1=YES; 0=NO)

        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1    1 1 1 1 1 1 1 1 1 1
        1 1 1 1 1 1 1 1 1 1    1 1 1 1 1

        NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.



                              *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                            (METERS/SEC)

                                  1.54,    3.09,    5.14,    8.23,   10.80,
```

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                               ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                              ***        23:35:55
                                                                                                        PAGE  66
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

   Surface file:   ..\met data - 11.9m\745090.SFC                                      Met Version:  14134
   Profile file:   ..\met data - 11.9m\745090.PFL
   Surface format: FREE
   Profile format: FREE
   Surface station no.:   23244              Upper air station no.:    23230
                 Name: UNKNOWN                           Name: OAKLAND/WSO_AP
                 Year:  2009                             Year:   2009

   First 24 hours of scalar data
   YR MO DY JDY HR    H0     U*     W*   DT/DZ ZICNV ZIMCH  M-O LEN   Z0  BOWEN ALBEDO  REF WS    WD    HT  REF TA    HT
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   09 01 01   1 01  -12.1  0.213 -9.000 -9.000 -999.  236.     72.6  0.09  0.54  1.00   2.86     1.  10.0  282.5    2.0
   09 01 01   1 02  -14.9  0.261 -9.000 -9.000 -999.  321.    109.2  0.09  0.54  1.00   3.36    18.  10.0  282.0    2.0
   09 01 01   1 03   -9.1  0.160 -9.000 -9.000 -999.  158.     40.7  0.09  0.54  1.00   2.36    24.  10.0  282.0    2.0
   09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.4    2.0
   09 01 01   1 05   -3.9  0.075 -9.000 -9.000 -999.   49.      9.8  0.09  0.54  1.00   1.76    23.  10.0  281.4    2.0
   09 01 01   1 06   -9.1  0.159 -9.000 -9.000 -999.  153.     40.5  0.09  0.54  1.00   2.36     2.  10.0  280.9    2.0
   09 01 01   1 07   -9.1  0.159 -9.000 -9.000 -999.  153.     40.5  0.09  0.54  1.00   2.36    15.  10.0  280.9    2.0
   09 01 01   1 08   -4.7  0.084 -9.000 -9.000 -999.   61.     11.7  0.15  0.54  0.73   1.76   323.  10.0  280.9    2.0
   09 01 01   1 09   -4.9  0.212 -9.000 -9.000 -999.  234.    179.0  0.15  0.54  0.38   2.36   357.  10.0  280.4    2.0
   09 01 01   1 10    5.7  0.163  0.241  0.014   89.  159.    -69.3  0.09  0.54  0.25   1.76    11.  10.0  280.9    2.0
   09 01 01   1 11   12.2 -9.000 -9.000 -9.000  158. -999. -99999.0  0.24  0.54  0.21   0.00     0.  10.0  280.9    2.0
   09 01 01   1 12   16.0  0.426  0.456  0.016  216.  668.   -442.4  0.15  0.54  0.19   4.36   346.  10.0  281.4    2.0
   09 01 01   1 13   16.6  0.236  0.493  0.015  263.  305.    -71.8  0.36  0.54  0.19   1.76   253.  10.0  281.4    2.0
   09 01 01   1 14   14.2 -9.000 -9.000 -9.000  297. -999. -99999.0  0.24  0.54  0.20   0.00     0.  10.0  282.0    2.0
   09 01 01   1 15   44.9 -9.000 -9.000 -9.000  387. -999. -99999.0  0.24  0.54  0.23   0.00     0.  10.0  283.8    2.0
   09 01 01   1 16   13.2 -9.000 -9.000 -9.000  410. -999. -99999.0  0.24  0.54  0.31   0.00     0.  10.0  284.1    2.0
   09 01 01   1 17  -12.3  0.130 -9.000 -9.000 -999.  112.     16.2  0.15  0.54  0.55   2.36   351.  10.0  282.1    2.0
   09 01 01   1 18   -9.3  0.106 -9.000 -9.000 -999.   83.     11.6  0.36  0.54  1.00   1.76   297.  10.0  282.1    2.0
   09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.1    2.0
   09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.1    2.0
   09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.1    2.0
   09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.1    2.0
   09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  281.1    2.0
   09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.24  0.54  1.00   0.00     0.  10.0  280.1    2.0


   First hour of profile data
   YR MO DY HR HEIGHT F  WDIR   WSPD AMB_TMP sigmaA  sigmaW  sigmaV
   09 01 01 01   10.0 1    1.    2.86   282.6   99.0  -99.00  -99.00


   F indicates top of profile (=1) or below (=0)
```

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                              ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                             ***       23:35:55
                                                                                                      PAGE  67
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                       *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ONSITE   ***
                            INCLUDING SOURCE(S):     1          ,

                                  *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                              ** CONC OF OTHER    IN MICROGRAMS/M**3                          **


        X-COORD (M)   Y-COORD (M)      CONC                 X-COORD (M)   Y-COORD (M)      CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
          587475.63    4131374.67     0.04967                587495.63    4131374.67     0.05516
          587515.63    4131374.67     0.06159                587535.63    4131374.67     0.06916
          587555.63    4131374.67     0.07821                587575.63    4131374.67     0.08934
          587575.63    4131394.67     0.10381                587448.82    4131190.81     0.02496
          587468.82    4131190.81     0.02806                587503.21    4131193.87     0.03484
          587523.21    4131193.87     0.03985                587539.13    4131193.87     0.04488
          587448.82    4131210.81     0.02475                587468.82    4131210.81     0.02777
          587503.21    4131210.81     0.03426                587523.21    4131210.81     0.03886
          587539.13    4131210.81     0.04371                587539.13    4131230.81     0.04277
          587503.21    4131250.81     0.03382                587523.21    4131250.81     0.03791
          587539.13    4131250.81     0.04230                587503.21    4131270.81     0.03418
          587523.21    4131270.81     0.03814                587539.13    4131270.81     0.04241
          587483.21    4131290.81     0.03174                587523.21    4131290.81     0.03907
          587539.13    4131290.81     0.04331                587483.21    4131310.81     0.03363
          587503.21    4131310.81     0.03691                587523.21    4131310.81     0.04119
          587539.13    4131310.81     0.04553                587483.72    4131327.24     0.03927
          587503.72    4131327.24     0.04331                587523.72    4131327.24     0.04821
          587539.64    4131327.24     0.05286                587931.50    4131080.40     2.25543
          587951.50    4131080.40     2.42356                587971.50    4131080.40     2.53215
          587991.50    4131080.40     2.56799                588011.50    4131080.40     2.52906
          587915.26    4131095.39     2.29275                587932.13    4131095.70     2.49305
          587952.13    4131095.70     2.67151                587972.13    4131095.70     2.78390
          587992.13    4131095.70     2.80940                588012.13    4131095.70     2.74714
          587914.32    4131111.32     2.53312                587931.19    4131111.63     2.76044
          587951.19    4131111.63     2.95929                587991.19    4131111.63     3.09786
          588011.19    4131111.63     3.01195                587914.32    4131131.32     2.91166
          587475.63    4131374.67     0.04209                587495.63    4131374.67     0.04675
          587515.63    4131374.67     0.05215                587535.63    4131374.67     0.05850
          587555.63    4131374.67     0.06607                587575.63    4131374.67     0.07541
          587575.63    4131394.67     0.08737                587475.63    4131414.67     0.05269
          587495.63    4131414.67     0.05918                587515.63    4131414.67     0.06674
          587535.63    4131414.67     0.07563                587555.63    4131414.67     0.08639
          587575.63    4131414.67     0.10001                587625.58    4131344.92     0.08671
          587645.58    4131344.92     0.10309                587665.58    4131344.92     0.12484
          587609.66    4131364.92     0.08814                587625.58    4131364.92     0.09650
          587610.91    4131345.04     0.07942                587644.68    4131357.78     0.10883
          587609.66    4131384.92     0.10160                587625.58    4131384.92     0.11128
```

```
        587646.09    4131386.96         0.13531                  587665.58    4131384.92         0.16050
        587685.58    4131384.92         0.19981                  587609.66    4131404.92         0.11926
        587625.58    4131404.92         0.13202                  587645.58    4131404.92         0.15826
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                  ***      11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                 ***      23:35:55
                                                                                                         PAGE  68
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                       *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ONSITE    ***
                           INCLUDING SOURCE(S):      1            ,

                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                          ** CONC OF OTHER    IN MICROGRAMS/M**3                          **

       X-COORD (M)   Y-COORD (M)        CONC                   X-COORD (M)   Y-COORD (M)        CONC
     - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        587665.58    4131404.92         0.19349                  587448.82    4131190.81         0.02377
        587468.82    4131190.81         0.02668                  587503.21    4131193.87         0.03300
        587523.21    4131193.87         0.03768                  587539.13    4131193.87         0.04233
        587448.82    4131210.81         0.02357                  587468.82    4131210.81         0.02639
        587503.21    4131210.81         0.03245                  587523.21    4131210.81         0.03676
        587539.13    4131210.81         0.04125                  587539.13    4131230.81         0.04036
        587503.21    4131250.81         0.03200                  587523.21    4131250.81         0.03584
        587539.13    4131250.81         0.03989                  587503.21    4131270.81         0.03230
        587523.21    4131270.81         0.03602                  587539.13    4131270.81         0.03994
        587483.21    4131290.81         0.02994                  587523.21    4131290.81         0.03679
        587539.13    4131290.81         0.04067                  587483.21    4131310.81         0.03150
        587503.21    4131310.81         0.03458                  587523.21    4131310.81         0.03853
        587539.13    4131310.81         0.04245                  587483.72    4131327.24         0.03416
        587503.72    4131327.24         0.03763                  587523.72    4131327.24         0.04191
        587539.64    4131327.24         0.04600                  587931.50    4131080.40         2.17549
        587951.50    4131080.40         2.34847                  587971.50    4131080.40         2.46359
        587991.50    4131080.40         2.50579                  588011.50    4131080.40         2.47197
        587915.26    4131095.39         2.19813                  587932.13    4131095.70         2.40090
        587952.13    4131095.70         2.58354                  587972.13    4131095.70         2.70410
        587992.13    4131095.70         2.73763                  588012.13    4131095.70         2.68117
        587914.32    4131111.32         2.42267                  587931.19    4131111.63         2.65207
        587951.19    4131111.63         2.85507                  587991.19    4131111.63         3.01369
        588011.19    4131111.63         2.93485                  587914.32    4131131.32         2.77583
        587931.19    4131131.63         3.04208                  587951.19    4131131.63         3.27094
        587970.88    4131133.82         3.45880                  587931.50    4131145.99         3.38183
        587951.50    4131145.99         3.63226                  587971.50    4131145.99         3.76294    Residential MER
        587475.63    4131374.67         0.03932                  587495.63    4131374.67         0.04360
        587515.63    4131374.67         0.04857                  587535.63    4131374.67         0.05439
        587555.63    4131374.67         0.06132                  587575.63    4131374.67         0.06982
        587575.63    4131394.67         0.08029                  587475.63    4131414.67         0.04881
        587495.63    4131414.67         0.05470                  587515.63    4131414.67         0.06158
        587535.63    4131414.67         0.06964                  587555.63    4131414.67         0.07937
        587575.63    4131414.67         0.09161                  587625.58    4131344.92         0.08140
        587645.58    4131344.92         0.09644                  587665.58    4131344.92         0.11630
```

Model Output
Unit Emission Rates (1 g/s)

```
     587609.66    4131364.92      0.08186                      587625.58    4131364.92      0.08972
     587610.91    4131345.04      0.07451                      587644.68    4131357.78      0.10120
     587609.66    4131384.92      0.09345                      587625.58    4131384.92      0.10238
     587646.09    4131386.96      0.12377                      587665.58    4131384.92      0.14616
     587685.58    4131384.92      0.18063                      587609.66    4131404.92      0.10892
     587625.58    4131404.92      0.12035                      587645.58    4131404.92      0.14352
```

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                    ***     11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                   ***     23:35:55
                                                                                                          PAGE  69
*** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                    *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ONSITE   ***
                               INCLUDING SOURCE(S):      1           ,

                                   *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                             ** CONC OF OTHER    IN MICROGRAMS/M**3                        **


        X-COORD (M)  Y-COORD (M)     CONC                     X-COORD (M)  Y-COORD (M)     CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
     587665.58    4131404.92      0.17436                      587448.82    4131190.81      0.02298
     587468.82    4131190.81      0.02577                      587503.21    4131193.87      0.03181
     587523.21    4131193.87      0.03628                      587539.13    4131193.87      0.04072
     587448.82    4131210.81      0.02279                      587468.82    4131210.81      0.02549
     587503.21    4131210.81      0.03128                      587523.21    4131210.81      0.03539
     587539.13    4131210.81      0.03967                      587539.13    4131230.81      0.03880
     587503.21    4131250.81      0.03083                      587523.21    4131250.81      0.03449
     587539.13    4131250.81      0.03834                      587503.21    4131270.81      0.03110
     587523.21    4131270.81      0.03464                      587539.13    4131270.81      0.03836
     587483.21    4131290.81      0.02883                      587523.21    4131290.81      0.03535
     587539.13    4131290.81      0.03901                      587483.21    4131310.81      0.03024
     587503.21    4131310.81      0.03318                      587523.21    4131310.81      0.03691
     587539.13    4131310.81      0.04061                      587483.72    4131327.24      0.03259
     587503.72    4131327.24      0.03588                      587523.72    4131327.24      0.03990
     587539.64    4131327.24      0.04373                      587931.50    4131080.40      2.10453
     587951.50    4131080.40      2.27747                      587971.50    4131080.40      2.39487
     587991.50    4131080.40      2.44070                      588011.50    4131080.40      2.41123
     587915.26    4131095.39      2.11853                      587932.13    4131095.70      2.31883
     587952.13    4131095.70      2.50069                      587972.13    4131095.70      2.62427
     587992.13    4131095.70      2.66248                      588012.13    4131095.70      2.61128
     587914.32    4131111.32      2.32976                      587931.19    4131111.63      2.55571
     587951.19    4131111.63      2.75731                      587991.19    4131111.63      2.92533
     588011.19    4131111.63      2.85297                      587914.32    4131131.32      2.66096
     587931.19    4131131.63      2.92219                      587951.19    4131131.63      3.14891
     587970.88    4131133.82      3.33845                      587931.50    4131145.99      3.24002
     587951.50    4131145.99      3.48813                      587971.50    4131145.99      3.62352
     588188.71    4131100.64      0.89272                      588185.54    4131072.12      0.90444
     588150.68    4131050.99      1.15055                      588089.65    4131050.25      1.68331
     588238.36    4131100.64      0.59144                      588236.25    4131072.12      0.60770
     588089.41    4131023.52      1.54364                      588183.43    4131025.64      0.88442
     588294.76    4131692.70      0.09934                      588280.72    4131734.27      0.08430
```

```
       588302.99    4131768.68       0.06979                    588309.06    4131813.21       0.05765
       588347.52    4131768.01       0.06531                    588367.08    4131769.36       0.06300
       588343.91    4131738.76       0.07385                    588365.28    4131736.28       0.07176
       588188.71    4131100.64       0.84649                    588185.54    4131072.12       0.86291
       588150.68    4131050.99       1.10835                    588089.65    4131050.25       1.64076
       588236.25    4131072.12       0.57649                    588089.41    4131023.52       1.50840
       588183.43    4131025.64       0.85058                    588294.76    4131692.70       0.09771
       588280.72    4131734.27       0.08295                    588302.99    4131768.68       0.06883
       588309.06    4131813.21       0.05696                    588347.52    4131768.01       0.06464
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                ***      11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                               ***      23:35:55
                                                                                                       PAGE  70

*** MODELOPTs:     RegDFAULT  CONC  ELEV  FLGPOL  URBAN


             *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ONSITE   ***
                          INCLUDING SOURCE(S):      1            ,


                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***


                         ** CONC OF OTHER    IN MICROGRAMS/M**3                        **


        X-COORD (M)   Y-COORD (M)     CONC                    X-COORD (M)   Y-COORD (M)     CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       588367.08    4131769.36       0.06242                    588343.91    4131738.76       0.07299
       588365.28    4131736.28       0.07103                    587562.30    4131060.30       0.06771
       587572.82    4131048.45       0.07480                    587602.98    4131053.87       0.09618
       587626.70    4131048.79       0.11955                    587650.37    4131060.08       0.14758
       587570.77    4131067.77       0.07240                    587588.74    4131066.76       0.08438
       587551.38    4131044.80       0.06281                    587618.52    4131070.48       0.10948
       587638.52    4131070.48       0.13207                    587562.30    4131060.30       0.06396
       587572.82    4131048.45       0.07077                    587602.98    4131053.87       0.09098
       587626.70    4131048.79       0.11307                    587650.37    4131060.08       0.13930
       587570.77    4131067.77       0.06831                    587588.74    4131066.76       0.07965
       587551.38    4131044.80       0.05945                    587618.52    4131070.48       0.10333
       587638.52    4131070.48       0.12457                    587567.41    4130993.34       0.07471
       587587.41    4130993.34       0.08709                    587607.41    4130993.34       0.10209
       587627.41    4130993.34       0.11989                    587647.41    4130993.34       0.14131
       587587.41    4131013.34       0.08652                    587607.41    4131013.34       0.10200
       587627.41    4131013.34       0.12056                    587647.41    4131013.34       0.14302
       587544.18    4131029.58       0.06015                    587913.01    4130951.09       1.03657
       587933.01    4130951.09       1.13383                    587953.01    4130951.09       1.21626
       587973.01    4130951.09       1.28378                    587993.01    4130951.09       1.32971
       588013.01    4130951.09       1.35203                    587913.01    4130971.09       1.13782
       587933.01    4130971.09       1.24643                    587953.01    4130971.09       1.33707
       587973.01    4130971.09       1.40893                    587993.01    4130971.09       1.45680
       587913.01    4130991.09       1.25276                    587953.01    4130991.09       1.47743
       587973.01    4130991.09       1.55505                    587993.01    4130991.09       1.60280
       588013.01    4130991.09       1.61709                    587913.01    4131011.09       1.38762
       587973.01    4131015.90       1.76515                    587993.01    4131015.90       1.81236
       587913.01    4131031.09       1.54293                    587933.01    4131031.09       1.69563
       587952.43    4131026.80       1.77736                    587973.01    4131031.09       1.91212
```

587993.01	4131031.09	1.95885	588013.01	4131031.09	1.95731
587913.01	4131051.09	1.72661	587933.01	4131051.09	1.90108
587952.43	4131046.80	1.98863	587973.01	4131051.09	2.13724
587993.01	4131051.09	2.17912	588013.01	4131051.09	2.16407
588049.88	4131046.86	1.96303	588049.44	4131027.68	1.81111
588049.85	4131003.37	1.63463	588049.44	4130981.12	1.49451
588092.71	4131002.96	1.42282	588095.18	4130977.82	1.30105
588144.63	4131003.37	1.09686	588145.04	4131030.15	1.15241
588190.37	4131005.02	0.82535	588147.10	4130976.58	1.02331
588188.31	4130984.41	0.81673	588142.98	4130960.92	1.01033
588182.13	4130960.92	0.82029	588236.53	4131050.35	0.60749
588274.44	4131050.76	0.46162	588272.79	4131067.65	0.46323

```
*** AERMOD - VERSION  19191 ***    *** COCU-21 Construction HRA                      ***        11/07/21
 *** AERMET - VERSION  14134 ***    *** Cupertino                                    ***        23:35:55
                                                                                                PAGE  71
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                        *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ONSITE   ***
                            INCLUDING SOURCE(S):     1          ,

                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                          ** CONC OF OTHER   IN MICROGRAMS/M**3                          **


         X-COORD (M)   Y-COORD (M)     CONC                X-COORD (M)   Y-COORD (M)     CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
          588236.94   4131030.57     0.60471                588271.97   4131033.04     0.47246
          588187.18   4131685.32     0.13198                588261.34   4131688.71     0.10919
          588187.18   4131705.32     0.11731                588234.20   4131688.78     0.11607
          588282.10   4131763.92     0.07357                588187.18   4131725.32     0.10478
          588319.62   4131735.21     0.07828                588301.45   4131734.38     0.08118
          588187.18   4131745.32     0.09407                588258.98   4131734.56     0.08754
          588187.18   4131765.32     0.08488                588231.84   4131736.04     0.09117
          588259.45   4131763.05     0.07655                588187.18   4131785.32     0.07696
          588232.79   4131760.29     0.08084                588259.45   4131783.05     0.06995
          588187.18   4131805.32     0.07010                588232.79   4131780.29     0.07359
          588259.45   4131803.05     0.06412                588187.18   4131825.32     0.06413
          588232.79   4131800.29     0.06725                588259.45   4131823.05     0.05896
          588187.18   4131845.32     0.05889                588232.79   4131820.29     0.06167
          588259.45   4131843.05     0.05437                588187.18   4131865.32     0.05427
          588232.79   4131840.29     0.05673                588259.45   4131863.05     0.05028
          588232.79   4131860.29     0.05236                587793.14   4130952.26     0.44891
          587813.14   4130952.26     0.52855                587833.14   4130952.26     0.61841
          587728.39   4130971.97     0.27137                587748.39   4130971.97     0.32262
          587768.39   4130971.97     0.38454                587710.47   4130996.42     0.24218
          587763.34   4130996.12     0.39240                587793.14   4130992.26     0.50917
          587813.14   4130992.26     0.60800                587833.14   4130992.26     0.72065
          587710.47   4131016.42     0.25011                587730.47   4131016.42     0.30225
          587750.47   4131016.42     0.36561                587770.47   4131016.42     0.44386
          587793.14   4131012.26     0.54499                587813.14   4131012.26     0.65668
          587778.30   4131103.77     0.63872      Preschool  588280.54   4131122.13     0.42085
          587859.39   4130955.59     0.75984                587882.33   4130971.55     0.95078
          587859.39   4130975.59     0.82515                587882.33   4130991.55     1.04208
          587859.81   4131012.81     0.97965                587879.81   4131012.81     1.13752      High School
          587881.56   4130954.00     0.87568                587859.39   4130955.59     0.72588
          587882.33   4130971.55     0.91142                587859.39   4130975.59     0.78705
          587882.33   4130991.55     0.99753                587859.81   4131012.81     0.93148
          587879.81   4131012.81     1.08657                587881.56   4130954.00     0.84026
```

Model Output
Unit Emission Rates (1 g/s)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

```
                       *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: OFFSITE  ***
                              INCLUDING SOURCE(S):     L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026    , L0000027    , L0000028    , ...         ,

                                         *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                            ** CONC OF OTHER    IN MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)       CONC                 X-COORD (M)   Y-COORD (M)       CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
      587475.63    4131374.67       1.60909                587495.63    4131374.67       2.23435
      587515.63    4131374.67       2.70469                587535.63    4131374.67       2.99332
      587555.63    4131374.67       3.16181                587575.63    4131374.67       3.27951
      587575.63    4131394.67       4.33577                587448.82    4131190.81       0.25192
      587468.82    4131190.81       0.30941                587503.21    4131193.87       0.43376
      587523.21    4131193.87       0.50458                587539.13    4131193.87       0.56525
      587448.82    4131210.81       0.27379                587468.82    4131210.81       0.34394
      587503.21    4131210.81       0.47807                587523.21    4131210.81       0.55425
      587539.13    4131210.81       0.62519                587539.13    4131230.81       0.71214
      587503.21    4131250.81       0.62034                587523.21    4131250.81       0.72774
      587539.13    4131250.81       0.82189                587503.21    4131270.81       0.71934
      587523.21    4131270.81       0.84857                587539.13    4131270.81       0.96094
      587483.21    4131290.81       0.67735                587523.21    4131290.81       1.00987
      587539.13    4131290.81       1.14241                587483.21    4131310.81       0.81635
      587503.21    4131310.81       1.03063                587523.21    4131310.81       1.24078
      587539.13    4131310.81       1.39143                587483.72    4131327.24       0.99672
      587503.72    4131327.24       1.27107                587523.72    4131327.24       1.51620
      587539.64    4131327.24       1.67311                587931.50    4131080.40       1.22530
      587951.50    4131080.40       1.26164                587971.50    4131080.40       1.29178
      587991.50    4131080.40       1.31225                588011.50    4131080.40       1.31959
      587915.26    4131095.39       1.28939                587932.13    4131095.70       1.32966
      587952.13    4131095.70       1.36737                587972.13    4131095.70       1.40115
      587992.13    4131095.70       1.42363                588012.13    4131095.70       1.43024
      587914.32    4131111.32       1.40587                587931.19    4131111.63       1.45056
      587951.19    4131111.63       1.49191                587991.19    4131111.63       1.55594
      588011.19    4131111.63       1.56337                587914.32    4131131.32       1.58315
      587475.63    4131374.67       1.41259                587495.63    4131374.67       2.03358
      587515.63    4131374.67       2.48808                587535.63    4131374.67       2.74585
      587555.63    4131374.67       2.88427                587575.63    4131374.67       2.98089
      587575.63    4131394.67       3.79235                587475.63    4131414.67       2.63603
      587495.63    4131414.67       3.90755                587515.63    4131414.67       4.37324
      587535.63    4131414.67       4.51039                587555.63    4131414.67       4.55381
      587575.63    4131414.67       4.62937                587625.58    4131344.92       2.28431
      587645.58    4131344.92       2.44223                587665.58    4131344.92       2.64281
```

587609.66	4131364.92	2.76444	587625.58	4131364.92	2.77098
587610.91	4131345.04	2.26557	587644.68	4131357.78	2.75185
587609.66	4131384.92	3.44395	587625.58	4131384.92	3.41820
587646.09	4131386.96	3.74825	587665.58	4131384.92	3.95144
587685.58	4131384.92	4.49149	587609.66	4131404.92	4.34599
587625.58	4131404.92	4.31549	587645.58	4131404.92	4.63613

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                      ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                     ***       23:35:55
                                                                                              PAGE  73
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                       *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: OFFSITE  ***
                             INCLUDING SOURCE(S):    L0000001   , L0000002   , L0000003   , L0000004   , L0000005   ,
                 L0000006   , L0000007   , L0000008   , L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
                 L0000014   , L0000015   , L0000016   , L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
                 L0000022   , L0000023   , L0000024   , L0000025   , L0000026   , L0000027   , L0000028   , ...        ,

                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                      ** CONC OF OTHER   IN MICROGRAMS/M**3                       **

     X-COORD (M)   Y-COORD (M)       CONC                 X-COORD (M)   Y-COORD (M)       CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       587665.58    4131404.92      5.03362                587448.82    4131190.81      0.22371
       587468.82    4131190.81      0.27720                587503.21    4131193.87      0.39487
       587523.21    4131193.87      0.46523                587539.13    4131193.87      0.52388
       587448.82    4131210.81      0.24203                587468.82    4131210.81      0.30537
       587503.21    4131210.81      0.43471                587523.21    4131210.81      0.51229
       587539.13    4131210.81      0.57895                587539.13    4131230.81      0.65899
       587503.21    4131250.81      0.56170                587523.21    4131250.81      0.66908
       587539.13    4131250.81      0.75854                587503.21    4131270.81      0.64911
       587523.21    4131270.81      0.77821                587539.13    4131270.81      0.88317
       587483.21    4131290.81      0.59661                587523.21    4131290.81      0.91981
       587539.13    4131290.81      1.04295                587483.21    4131310.81      0.71053
       587503.21    4131310.81      0.91670                587523.21    4131310.81      1.11695
       587539.13    4131310.81      1.25857                587483.72    4131327.24      0.87657
       587503.72    4131327.24      1.14461                587523.72    4131327.24      1.38432
       587539.64    4131327.24      1.53704                587931.50    4131080.40      1.16882
       587951.50    4131080.40      1.20472                587971.50    4131080.40      1.23746
       587991.50    4131080.40      1.26214                588011.50    4131080.40      1.27540
       587915.26    4131095.39      1.22682                587932.13    4131095.70      1.26487
       587952.13    4131095.70      1.30085                587972.13    4131095.70      1.33814
       587992.13    4131095.70      1.36619                588012.13    4131095.70      1.38003
       587914.32    4131111.32      1.33328                587931.19    4131111.63      1.37503
       587951.19    4131111.63      1.41380                587991.19    4131111.63      1.48910
       588011.19    4131111.63      1.50497                587914.32    4131131.32      1.49396
       587931.19    4131131.63      1.54041                587951.19    4131131.63      1.58338
       587970.88    4131133.82      1.65369                587931.50    4131145.99      1.68247
       587951.50    4131145.99      1.73055                587971.50    4131145.99      1.78076   Residential MER
       587475.63    4131374.67      1.15553                587495.63    4131374.67      1.69558
       587515.63    4131374.67      2.09207                587535.63    4131374.67      2.31516
       587555.63    4131374.67      2.43319                587575.63    4131374.67      2.51666
       587575.63    4131394.67      3.01015                587475.63    4131414.67      1.79574
       587495.63    4131414.67      2.68951                587515.63    4131414.67      3.04794
       587535.63    4131414.67      3.17625                587555.63    4131414.67      3.23588
       587575.63    4131414.67      3.31727                587625.58    4131344.92      2.01966
       587645.58    4131344.92      2.14898                587665.58    4131344.92      2.30590
```

```
        587609.66    4131364.92      2.38472              587625.58    4131364.92      2.35418
        587610.91    4131345.04      2.02224              587644.68    4131357.78      2.36066
        587609.66    4131384.92      2.80691              587625.58    4131384.92      2.72446
        587646.09    4131386.96      2.91431              587665.58    4131384.92      3.03633
        587685.58    4131384.92      3.33665              587609.66    4131404.92      3.24295
        587625.58    4131404.92      3.11499              587645.58    4131404.92      3.26111
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                    ***        11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                   ***        23:35:55
                                                                                                             PAGE  74
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                    *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: OFFSITE  ***
                           INCLUDING SOURCE(S):    L0000001    , L0000002   , L0000003   , L0000004   , L0000005   ,
             L0000006    , L0000007   , L0000008   , L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
             L0000014    , L0000015   , L0000016   , L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
             L0000022    , L0000023   , L0000024   , L0000025   , L0000026   , L0000027   , L0000028   , . . .      ,

                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                           ** CONC OF OTHER    IN MICROGRAMS/M**3                            **

        X-COORD (M)   Y-COORD (M)      CONC                X-COORD (M)   Y-COORD (M)      CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        587665.58    4131404.92      3.42106              587448.82    4131190.81      0.21030
        587468.82    4131190.81      0.26125              587503.21    4131193.87      0.37445
        587523.21    4131193.87      0.44291              587539.13    4131193.87      0.49979
        587448.82    4131210.81      0.22677              587468.82    4131210.81      0.28691
        587503.21    4131210.81      0.41132              587523.21    4131210.81      0.48651
        587539.13    4131210.81      0.55124              587539.13    4131230.81      0.62533
        587503.21    4131250.81      0.52742              587523.21    4131250.81      0.63031
        587539.13    4131250.81      0.71655              587503.21    4131270.81      0.60565
        587523.21    4131270.81      0.72857              587539.13    4131270.81      0.82900
        587483.21    4131290.81      0.54925              587523.21    4131290.81      0.85325
        587539.13    4131290.81      0.97011              587483.21    4131310.81      0.64677
        587503.21    4131310.81      0.83712              587523.21    4131310.81      1.02382
        587539.13    4131310.81      1.15744              587483.72    4131327.24      0.78936
        587503.72    4131327.24      1.03817              587523.72    4131327.24      1.26206
        587539.64    4131327.24      1.40469              587931.50    4131080.40      1.12510
        587951.50    4131080.40      1.16004              587971.50    4131080.40      1.19253
        587991.50    4131080.40      1.21833              588011.50    4131080.40      1.23400
        587915.26    4131095.39      1.17819              587932.13    4131095.70      1.21416
        587952.13    4131095.70      1.24860              587972.13    4131095.70      1.28570
        587992.13    4131095.70      1.31523              588012.13    4131095.70      1.33186
        587914.32    4131111.32      1.27619              587931.19    4131111.63      1.31526
        587951.19    4131111.63      1.35190              587991.19    4131111.63      1.42840
        588011.19    4131111.63      1.44786              587914.32    4131131.32      1.42240
        587931.19    4131131.63      1.46520              587951.19    4131131.63      1.50529
        587970.88    4131133.82      1.57309              587931.50    4131145.99      1.59235
        587951.50    4131145.99      1.63684              587971.50    4131145.99      1.68633
        588188.71    4131100.64      0.78197              588185.54    4131072.12      0.75035
        588150.68    4131050.99      0.83867              588089.65    4131050.25      1.03544
```

```
        588238.36    4131100.64          0.59606              588236.25    4131072.12          0.57993
        588089.41    4131023.52          0.93555              588183.43    4131025.64          0.68545
        588294.76    4131692.70          0.29816              588280.72    4131734.27          0.29391
        588302.99    4131768.68          0.22134              588309.06    4131813.21          0.18370
        588347.52    4131768.01          0.16781              588367.08    4131769.36          0.15022
        588343.91    4131738.76          0.18547              588365.28    4131736.28          0.16495
        588188.71    4131100.64          0.76327              588185.54    4131072.12          0.73349
        588150.68    4131050.99          0.82254              588089.65    4131050.25          1.01628
        588236.25    4131072.12          0.56582              588089.41    4131023.52          0.91813
        588183.43    4131025.64          0.67177              588294.76    4131692.70          0.28632
        588280.72    4131734.27          0.28245              588302.99    4131768.68          0.21483
        588309.06    4131813.21          0.17950              588347.52    4131768.01          0.16480
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                                          ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                                         ***       23:35:55
                                                                                                                 PAGE  75
*** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                    *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: OFFSITE  ***
                           INCLUDING SOURCE(S):     L0000001   , L0000002   , L0000003   , L0000004   , L0000005    ,
                  L0000006   , L0000007   , L0000008   , L0000009   , L0000010   , L0000011   , L0000012   , L0000013    ,
                  L0000014   , L0000015   , L0000016   , L0000017   , L0000018   , L0000019   , L0000020   , L0000021    ,
                  L0000022   , L0000023   , L0000024   , L0000025   , L0000026   , L0000027   , L0000028   , . . .       ,

                                  *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                          ** CONC OF OTHER    IN MICROGRAMS/M**3                              **

         X-COORD (M)   Y-COORD (M)     CONC                  X-COORD (M)   Y-COORD (M)     CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        588367.08    4131769.36          0.14769              588343.91    4131738.76          0.18122
        588365.28    4131736.28          0.16184              587562.30    4131060.30          0.33977
        587572.82    4131048.45          0.34106              587602.98    4131053.87          0.40008
        587626.70    4131048.79          0.43533              587650.37    4131060.08          0.49309
        587570.77    4131067.77          0.37165              587588.74    4131066.76          0.40104
        587551.38    4131044.80          0.29843              587618.52    4131070.48          0.45983
        587638.52    4131070.48          0.49651              587562.30    4131060.30          0.31852
        587572.82    4131048.45          0.32100              587602.98    4131053.87          0.37873
        587626.70    4131048.79          0.41144              587650.37    4131060.08          0.46908
        587570.77    4131067.77          0.34498              587588.74    4131066.76          0.37517
        587551.38    4131044.80          0.28071              587618.52    4131070.48          0.43372
        587638.52    4131070.48          0.46932              587567.41    4130993.34          0.26716
        587587.41    4130993.34          0.29366              587607.41    4130993.34          0.32149
        587627.41    4130993.34          0.34928              587647.41    4130993.34          0.37761
        587587.41    4131013.34          0.31742              587607.41    4131013.34          0.34736
        587627.41    4131013.34          0.37763              587647.41    4131013.34          0.40785
        587544.18    4131029.58          0.26808              587913.01    4130951.09          0.67616
        587933.01    4130951.09          0.69834              587953.01    4130951.09          0.71875
        587973.01    4130951.09          0.73540              587993.01    4130951.09          0.74780
        588013.01    4130951.09          0.75563              587913.01    4130971.09          0.72961
        587933.01    4130971.09          0.75381              587953.01    4130971.09          0.77556
        587973.01    4130971.09          0.79282              587993.01    4130971.09          0.80645
```

587913.01	4130991.09	0.79014	587953.01	4130991.09	0.84049
587973.01	4130991.09	0.85950	587993.01	4130991.09	0.87354
588013.01	4130991.09	0.88123	587913.01	4131011.09	0.85859
587973.01	4131015.90	0.95377	587993.01	4131015.90	0.96918
587913.01	4131031.09	0.93614	587933.01	4131031.09	0.96805
587952.43	4131026.80	0.97675	587973.01	4131031.09	1.01895
587993.01	4131031.09	1.03572	588013.01	4131031.09	1.04321
587913.01	4131051.09	1.02618	587933.01	4131051.09	1.06214
587952.43	4131046.80	1.07049	587973.01	4131051.09	1.11843
587993.01	4131051.09	1.13586	588013.01	4131051.09	1.14290
588049.88	4131046.86	1.09894	588049.44	4131027.68	1.01230
588049.85	4131003.37	0.91634	588049.44	4130981.12	0.84114
588092.71	4131002.96	0.86223	588095.18	4130977.82	0.78696
588144.63	4131003.37	0.75111	588145.04	4131030.15	0.80901
588190.37	4131005.02	0.63670	588147.10	4130976.58	0.69194
588188.31	4130984.41	0.61381	588142.98	4130960.92	0.67066
588182.13	4130960.92	0.59534	588236.53	4131050.35	0.56103
588274.44	4131050.76	0.46632	588272.79	4131067.65	0.47882

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                    ***      11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                   ***      23:35:55
                                                                                           PAGE  76

*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                       *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: OFFSITE  ***
                                INCLUDING SOURCE(S):    L0000001   , L0000002   , L0000003   , L0000004   , L0000005    ,
                    L0000006   , L0000007   , L0000008   , L0000009   , L0000010   , L0000011   , L0000012   , L0000013    ,
                    L0000014   , L0000015   , L0000016   , L0000017   , L0000018   , L0000019   , L0000020   , L0000021    ,
                    L0000022   , L0000023   , L0000024   , L0000025   , L0000026   , L0000027   , L0000028   , ...         ,

                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                       ** CONC OF OTHER    IN MICROGRAMS/M**3                         **

     X-COORD (M)   Y-COORD (M)     CONC                 X-COORD (M)   Y-COORD (M)     CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       588236.94    4131030.57     0.54350                 588271.97    4131033.04     0.46248
       588187.18    4131685.32     1.05763                 588261.34    4131688.71     0.40769
       588187.18    4131705.32     0.98813                 588234.20    4131688.78     0.54790
       588282.10    4131763.92     0.26240                 588187.18    4131725.32     0.91245
       588319.62    4131735.21     0.21882                 588301.45    4131734.38     0.24956
       588187.18    4131745.32     0.83186                 588258.98    4131734.56     0.35623
       588187.18    4131765.32     0.74912                 588231.84    4131736.04     0.47157
       588259.45    4131763.05     0.31768                 588187.18    4131785.32     0.66613
       588232.79    4131760.29     0.41957                 588259.45    4131783.05     0.29371
       588187.18    4131805.32     0.58625                 588232.79    4131780.29     0.38363
       588259.45    4131803.05     0.27081                 588187.18    4131825.32     0.51333
       588232.79    4131800.29     0.34916                 588259.45    4131823.05     0.24920
       588187.18    4131845.32     0.44787                 588232.79    4131820.29     0.31728
       588259.45    4131843.05     0.22869                 588187.18    4131865.32     0.38900
       588232.79    4131840.29     0.28772                 588259.45    4131863.05     0.20924
       588232.79    4131860.29     0.25991                 587793.14    4130952.26     0.51308
       587813.14    4130952.26     0.54039                 587833.14    4130952.26     0.56782
       587728.39    4130971.97     0.45677                 587748.39    4130971.97     0.48433
       587768.39    4130971.97     0.51324                 587710.47    4130996.42     0.47077
       587763.34    4130996.12     0.55182                 587793.14    4130992.26     0.59156
       587813.14    4130992.26     0.62431                 587833.14    4130992.26     0.65736
       587710.47    4131016.42     0.50656                 587730.47    4131016.42     0.53934
       587750.47    4131016.42     0.57255                 587770.47    4131016.42     0.60756
       587793.14    4131012.26     0.63891                 587813.14    4131012.26     0.67561
       587778.30    4131103.77     0.91255    Preschool    588280.54    4131122.13     0.48460
       587859.39    4130955.59     0.61118                 587882.33    4130971.55     0.68289
       587859.39    4130975.59     0.65750                 587882.33    4130991.55     0.73780
       587859.81    4131012.81     0.76388                 587879.81    4131012.81     0.80147    High School
       587881.56    4130954.00     0.63870                 587859.39    4130955.59     0.58867
       587882.33    4130971.55     0.65731                 587859.39    4130975.59     0.63256
       587882.33    4130991.55     0.70936                 587859.81    4131012.81     0.73300
       587879.81    4131012.81     0.76944                 587881.56    4130954.00     0.61542
```

Model Output
Unit Emission Rates (1 g/s)

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA                         ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                                        ***       23:35:55
                                                                                                 PAGE  77

 *** MODELOPTs:   RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                       *** THE SUMMARY OF MAXIMUM PERIOD ( 43872 HRS) RESULTS ***


                    ** CONC OF OTHER    IN MICROGRAMS/M**3                            **


                                                                                              NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                      MER LOCATION
ONSITE    1ST HIGHEST VALUE IS      3.76294 AT (   587971.50,  4131145.99,   55.99,   55.99,    6.10)  DC
          2ND HIGHEST VALUE IS      3.63226 AT (   587951.50,  4131145.99,   56.31,   56.31,    6.10)  DC
          3RD HIGHEST VALUE IS      3.62352 AT (   587971.50,  4131145.99,   55.99,   55.99,    9.14)  DC
          4TH HIGHEST VALUE IS      3.48813 AT (   587951.50,  4131145.99,   56.31,   56.31,    9.14)  DC
          5TH HIGHEST VALUE IS      3.45880 AT (   587970.88,  4131133.82,   56.02,   56.02,    6.10)  DC
          6TH HIGHEST VALUE IS      3.38183 AT (   587931.50,  4131145.99,   56.28,   56.28,    6.10)  DC
          7TH HIGHEST VALUE IS      3.33845 AT (   587970.88,  4131133.82,   56.02,   56.02,    9.14)  DC
          8TH HIGHEST VALUE IS      3.27094 AT (   587951.19,  4131131.63,   56.58,   56.58,    6.10)  DC
          9TH HIGHEST VALUE IS      3.24002 AT (   587931.50,  4131145.99,   56.28,   56.28,    9.14)  DC
         10TH HIGHEST VALUE IS      3.14891 AT (   587951.19,  4131131.63,   56.58,   56.58,    9.14)  DC


OFFSITE   1ST HIGHEST VALUE IS      5.03362 AT (   587665.58,  4131404.92,   55.82,   55.82,    6.10)  DC
          2ND HIGHEST VALUE IS      4.63613 AT (   587645.58,  4131404.92,   55.94,   55.94,    6.10)  DC
          3RD HIGHEST VALUE IS      4.62937 AT (   587575.63,  4131414.67,   54.38,   54.38,    6.10)  DC
          4TH HIGHEST VALUE IS      4.55381 AT (   587555.63,  4131414.67,   54.54,   54.54,    6.10)  DC
          5TH HIGHEST VALUE IS      4.51039 AT (   587535.63,  4131414.67,   54.51,   54.51,    6.10)  DC
          6TH HIGHEST VALUE IS      4.49149 AT (   587685.58,  4131384.92,   55.51,   55.51,    6.10)  DC
          7TH HIGHEST VALUE IS      4.37324 AT (   587515.63,  4131414.67,   54.47,   54.47,    6.10)  DC
          8TH HIGHEST VALUE IS      4.34599 AT (   587609.66,  4131404.92,   54.66,   54.66,    6.10)  DC
          9TH HIGHEST VALUE IS      4.33577 AT (   587575.63,  4131394.67,   53.46,   53.46,    1.50)  DC
         10TH HIGHEST VALUE IS      4.31549 AT (   587625.58,  4131404.92,   55.97,   55.97,    6.10)  DC



  *** RECEPTOR TYPES:  GC = GRIDCART
                       GP = GRIDPOLR
                       DC = DISCCART
                       DP = DISCPOLR
```

```
*** AERMOD - VERSION  19191 ***   *** COCU-21 Construction HRA            ***       11/07/21
*** AERMET - VERSION  14134 ***   *** Cupertino                          ***       23:35:55
                                                                                    PAGE  78
*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            0 Warning Message(s)
A Total of        15496 Informational Message(s)

A Total of        43872 Hours Were Processed

A Total of        14061 Calm Hours Identified

A Total of         1435 Missing Hours Identified (  3.27 Percent)


    ******** FATAL ERROR MESSAGES ********
            ***  NONE  ***


    ********   WARNING MESSAGES   ********
            ***  NONE  ***


    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

Appendix C. Construction Risk Calculations

Table C1
Residential MER Concentrations for Risk Calculations

Contaminant (a)	Source (b)		Model Output [1] (μg/m³) (c)	Emission Rates [2] (g/s) (d)	MEIR Conc. (μg/m³) (e)	Total MEIR Conc. Annual Average (μg/m³) (f)
Residential Receptors - Unmitigated						
DPM	2023	On-Site Emissions	3.76	1.21E-02	4.57E-02	4.57E-02
		Truck Route	1.78	3.30E-05	5.87E-05	
	2024	On-Site Emissions	3.76	1.31E-02	4.95E-02	4.95E-02
		Truck Route	1.78	1.81E-05	3.23E-05	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						
PM$_{2.5}$	2023	On-Site Emissions	3.76	1.12E-02	4.23E-02	4.23E-02
		Truck Route	1.78	3.14E-05	5.60E-05	
	2024	On-Site Emissions	3.76	1.24E-02	4.68E-02	4.68E-02
		Truck Route	1.78	1.72E-05	3.06E-05	
Maximum Annual PM$_{2.5}$ Concentration						**0.05**

Maximum Exposed Individual Resident (MEIR) UTM coordinates: 587971.50E, 4131145.99N

[1] Model Output at the MEIR based on unit emission rates for sources (1 g/s).

[2] Emission Rates from Emission Rate Calculations (Appendix A - Construction Emissions).

Table C2
Residential MER Health Risk Calculations

Source	MEIR	Weight	Contaminant			Dose (by age bin)		Carcinogenic Risks (by age bin)		Total Cancer Risk	Chronic Hazards [3]	
	Conc. (µg/m³)	Fraction		URF (µg/m³)⁻¹	CPF (mg/kg/day)⁻¹	3rd Trimester (mg/kg-day)	0 < 2 years (mg/kg-day)	3rd Trimester per million	0 < 2 years per million	per million	REL (µg/m³)	RESP
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(m)	(n)	(o)
Residential Receptors - Unmitigated												
2023 On & Off-	4.57E-02	1.00E+00	DPM	3.0E-04	1.1E+00	1.58E-05	4.78E-05	5.04E-01	2.58E+00	3.1	5.0E+00	9.14E-03
2024 Site	4.95E-02						5.18E-05		5.54E+00	5.5		9.90E-03
									Total	**8.6**		**0.019**

Maximum Exposed Individual Resident (MEIR) UTM coordinates: 587971.50E, 4131145.99N

		3rd Trimester	0 < 2 years
OEHHA age bin exposure year(s)		2021	2021-2023
Dose Exposure Factors:	exposure frequency (days/year)	350	350
	inhalation rate (L/kg-day) [1]	361	1090
	inhalation absorption factor	1	1
	conversion factor (mg/µg; m³/L)	1.0E-06	1.0E-06
Risk Calculation Factors:	age sensitivity factor	10	10
	averaging time (years)	70	70
	per million	1.0E+06	1.0E+06
	fraction of time at home	0.85	0.85

exposure durations per age bin		exposure durations (year)	
Construction Year	Risk Scalar [2]	3rd Trimester	0 < 2 years
2023	0.67	0.25	0.42
2024	0.84		0.84
Total	1.51	0.25	1.26

[1] Inhalation rate taken as the 95th percentile breathing rates (OEHHA, 2015).

[2] Risk scalar determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App A - Construction Emissions).

[3] Chronic Hazards for DPM using the chronic reference exposure level (REL) for the Respiratory Toxicological Endpoint.

Table C3
Day Care/High School MER Concentrations for Risk Calculations

Contaminant (a)	Source	(b)	Model Output [1] (µg/m³) (c)	Emission Rates [2] (g/s) (d)	MER Conc. (µg/m³) (e)	Total MER Conc. Annual Average (µg/m³) (f)
Preschool Receptors - Unmitigated						
DPM	2023	On-Site Emissions	0.64	1.21E-02	7.75E-03	7.78E-03
		Truck Route	0.91	3.30E-05	3.01E-05	
	2024	On-Site Emissions	0.64	1.31E-02	8.40E-03	8.42E-03
		Truck Route	0.91	1.81E-05	1.65E-05	
			Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations			
$PM_{2.5}$	2023	On-Site Emissions	0.64	1.12E-02	7.18E-03	7.21E-03
		Truck Route	0.91	3.14E-05	2.87E-05	
	2024	On-Site Emissions	0.64	1.24E-02	7.94E-03	7.95E-03
		Truck Route	0.91	1.72E-05	1.57E-05	
				Maximum Annual $PM_{2.5}$ Concentration		**0.008**

Sunflower Learning Center UTM coordinates: 587778.30E, 4131103.774N

Contaminant (a)	Source	(b)	Model Output [1] (µg/m³) (c)	Emission Rates [2] (g/s) (d)	MER Conc. (µg/m³) (e)	Total MER Conc. Annual Average (µg/m³) (f)
Cupertino High School Receptors - Unmitigated						
DPM	2023	On-Site Emissions	1.14	1.21E-02	1.38E-02	1.38E-02
		Truck Route	0.80	3.30E-05	2.64E-05	
	2024	On-Site Emissions	1.14	1.31E-02	1.50E-02	1.50E-02
		Truck Route	0.80	1.81E-05	1.45E-05	
			Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations			
$PM_{2.5}$	2023	On-Site Emissions	1.14	1.12E-02	1.28E-02	1.28E-02
		Truck Route	0.80	3.14E-05	2.52E-05	
	2024	On-Site Emissions	1.14	1.24E-02	1.41E-02	1.42E-02
		Truck Route	0.80	1.72E-05	1.38E-05	
				Maximum Annual $PM_{2.5}$ Concentration		**0.014**

High School MER UTM coordinates: 587879.81E, 4131012.81N

[1] Model Output at the MER based on unit emission rates for sources (1 g/s).

[2] Emission Rates from Emission Rate Calculations (Appendix A - Construction Emissions).

Table C4
Day Care/High School MER Health Risk Calculations

Source		MER Conc. (µg/m³)	Weight Fraction	Contaminant	URF (µg/m³)⁻¹	CPF (mg/kg/day)⁻¹	Dose (by age bin) Day Care 2 < 9 years (mg/kg-day)	Dose (by age bin) High School 2 < 16 years (mg/kg-day)	Carcinogenic Risks (by age bin) Day Care 2 < 9 years per million	Carcinogenic Risks (by age bin) High School 2 < 16 years per million	Total Cancer Risk per million	Chronic Hazards [3] REL (µg/m³)	Chronic Hazards [3] RESP
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(m)	(n)	(o)
Preschool Receptors - Unmitigated													
2023	On & Off-	7.78E-03	1.00E+00	DPM	3.0E-04	1.1E+00	4.59E-06		1.39E-01		0.1	5.0E+00	1.56E-03
2024	Site	8.42E-03					4.96E-06		1.88E-01		0.2		1.68E-03
										Total	0.3		0.003
Cupertino High School Receptors - Unmitigated													
2023	On & Off-	1.38E-02	1.00E+00	DPM	3.0E-04	1.1E+00		3.55E-06		1.07E-01	0.1	5.0E+00	2.77E-03
2024	Site	1.50E-02						3.84E-06		1.45E-01	0.1		2.99E-03
										Total	0.3		0.006

		Day Care 2 < 9 years	High School 2 < 16 years
	OEHHA age bin		
	exposure year(s)	2023-2023	2023-2024
Dose Exposure Factors:	exposure frequency (days/year)	250	180
	8-hour inhalation rate (L/kg-day) [1]	861	520
	inhalation absorption factor	1	1
	conversion factor (mg/µg; m³/L)	1.0E-06	1.0E-06
Risk Calculation Factors:	age sensitivity factor	3	3
	averaging time (years)	70	70
	per million	1.0E+06	1.0E+06

exposure durations per age bin		exposure durations (year)	
Construction Year	Risk Scalar [2]	2 < 9 years	2 < 16 years
2023	0.67	0.67	0.67
2024	0.84	0.84	0.84
Total	1.51	1.51	1.51

[1] Inhalation rate taken as the 8-hour 95th percentile breathing rates, Moderate Activity (OEHHA, 2015).

[2] Risk scalar determined for each year of construction to adjust receptor exposures to the exposure durations for each construction year (see App A - Construction Emissions).

[3] Chronic Hazards for DPM using the chronic reference exposure level (REL) for the Respiratory Toxicological Endpoint.