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VIA EMAIL

May 12, 2025

Planning & Land Use Management Committee
Councilmember John S. Lee, Chair
Councilmember Heather Hutt
Councilmember Katy Yaroslavsky
Councilmember Imelda Padilla
Councilmember Kevin De León
Los Angeles City Council
200 North Spring Street, Room 395
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c/o Candy Rosales, Legislative Assistant
clerk.plumcommittee@lacity.org

Dylan Lawrence, City Planning Associate
Project Planning Division
Los Angeles City Planning Department
200 North Spring Street
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Re: Appeal Comment for the California Environmental Quality Act Class 32 Categorical Exemption for the 7014 West Sunset Boulevard Project (Case Nos.: CPC-2024-480-DB-SPR-VHCA; ENV-2024-481-CE)

Dear Honorable Members of the Planning & Land Use Management Committee and Mr. Lawrence:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") and its members living or working in the City of Los Angeles ("City"), regarding SAFER's appeal of the California Environmental Quality Act ("CEQA") Class 32 Categorical Exemption prepared for the 7014 West Sunset Boulevard Project (CPC-2024-480-DB-SPR-VHCA; ENV-2024-481-CE) ("Project"). The Project involves the construction of a new seven-story, 91,665-square-foot, mixed-use residential and commercial building with 112 dwelling units, 2,875 square-feet of commercial space, and one underground parking level, located at 7014 West Sunset Boulevard, Los Angeles, CA 90028.

After reviewing the Categorical Exemption Report ("CE Report") and other relevant documents prepared for the Project by City Planning Staff, we conclude that the Project does not qualify for CEQA's Class 32 Categorical Exemption, or Infill Exemption ("Exemption"), because it will have significant adverse environmental impacts on air quality and indoor air quality. The City therefore cannot rely on the Exemption because (1) the Exemption does not apply on its face, and (2) the Unusual Circumstances Exception to the Exemption applies.

SAFER's review of the Project has been assisted by air quality experts Patrick Sutton, P.E., and Dr. Yilin Tian, Ph.D., from the Baseline Environmental Consulting ("Baseline"), and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H. Baseline's comment and CV are attached as Exhibit A and are incorporated herein by reference in their entirety. Mr. Offermann's comment and CV are attached as Exhibit B and are incorporated herein by reference in their entirety.

For the reasons discussed below, the Project does not qualify for CEQA's Infill Exemption and instead requires an Initial Study to determine the appropriate level of CEQA review before approval, whether a mitigated negative declaration ("MND") or an environmental impact report ("EIR"). SAFER thus respectfully requests that the Planning & Land Use Management ("PLUM") Committee grant its appeal and find that the Project does not qualify for the Infill Exemption under CEQA.

I. PROJECT DESCRIPTION

The Project proposes the demolition of an existing commercial building, institutional building, and associated surface parking lot, and the construction, use, and maintenance of a new 86-foot-tall, seven-story, mixed-use residential and commercial building. The building will be 91,665 square feet total, with 2,875-square-feet of commercial retail space, 112 dwelling units, including 12 Very Low-Income units, one level of at-grade parking, and one level of underground parking. Project construction would occur over approximately 20 months.

The Project would be located at 7014-7022 West Sunset Boulevard and 1438-1446 North Sycamore Avenue, in the City of Los Angeles. Comprised of four parcels, the Project site will occupy approximately 28,919 total square feet (0.66 acres) of buildable lot area. The site is bordered by North Sycamore Avenue to the west, Sunset Boulevard to the north, the Sunset Montessori Pre-School and residential uses to the south, and commercial, parking, and residential uses and North Orange Drive to the east. The site is also within the Hollywood Community Plan Area. The northern portion of the site is zoned C4-2D-SN, with a corresponding General Plan Land Use Designation of Regional Center Commercial, and the southern portion of the site is zoned RD1.5-1XL, with a corresponding General Plan Land Use Designation of Low Medium II Residential.

II. LEGAL STANDARD

CEQA mandates that "the long-term protection of the environment . . . shall be the guiding criterion in public decisions" throughout California. (PRC § 21001(d).) A "project" is "the whole of an action" directly undertaken, supported, or authorized by a public agency "which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (PRC § 21065; 14 CCR § 15378(a).) CEQA requires environmental factors to be considered at the "earliest possible stage . . . before [the project] gains irreversible momentum," (*Bozung v. Loc. Agency Formation Com*. (1975) 13 Cal. 3d 263, 284), "at a point in the planning process where genuine flexibility remains." *(Sundstrom v. Mendocino County* (1988) 202 Cal.App.3d 296, 307.)

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. (14 CCR § 15002(k); *Committee to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185-86 ["*Hollywoodland*"].) First, if a project falls into an exempt category, or if it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further evaluation is required under CEQA. (14 CCR § 15002(k)(1).) Second, if the project is not exempt, and there is a possibility the project will have a significant environmental effect, then the agency must perform an initial threshold study. (14 CCR § 15002(k)(2).) Third, if the initial study indicates that there is no substantial evidence that the project may have a significant environmental effect (*id*.), then a mitigated negative declaration ("MND") is required, but if the initial study shows that the project may have a significant environmental effect, then an environmental impact report ("EIR") is required. (14 CCR § 15002(k)(3).) Here, because the City exempted the Project from CEQA entirely, the first step of the CEQA process applies.

CEQA identifies certain classes of projects as exempt from CEQA's provisions. These are called categorical exemptions. (14 CCR §§ 15300, 15354.) "Exemptions to CEQA are narrowly construed and '[e]xemption categories are not to be expanded beyond the reasonable scope of their statutory language.' [Citations]." (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125.) The determination as to the appropriate scope of a categorical exemption is a question of law subject to independent, or de novo, review. (*San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist.*, (2006) 139 Cal. App. 4th 1356, 1375 ["[Q]uestions of interpretation or application of the requirements of CEQA are matters of law. [Citations.] Thus, for example, interpreting the scope of a CEQA exemption presents 'a question of law, subject to de novo review by this court.'"].) Here, the City has recommended that the Project is categorically exempt from CEQA's requirements pursuant to the Class 32 Exemption, or "Infill Exemption." (14 CCR § 15332.)

Under CEQA's Infill Exemption, a project is exempt from CEQA's requirements if the project meets the following five conditions:

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
(c) The project site has no value, as habitat for endangered, rare, or threatened species.
(d) ***Approval of the project would not result in any significant effects relating to*** traffic, noise, ***air quality***, or water quality.
(e) The site can be adequately served by all required utilities and public services.

(14 CCR § 15332 [emph. added].) Importantly, mitigated categorical exemptions are not allowed. (*Salmon Protection & Watershed Network v. County of Marin* (2004) 125

Cal.App.4th 1098, 1102 [“*SPAWN*”]; *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1200 [“*Azusa*”].) Agencies may not rely on mitigation measures as a basis for concluding that a project is categorically exempt, or as a basis for determining that one of the significant effects exceptions does not apply.

III. DISCUSSION

A. CEQA’s Infill Exemption does not apply on its face to the Project and thus a full CEQA analysis is required.

The City relies on the CEQA Infill Exemption for the Project. One of the Exemption’s key limitations is that it does not apply if a project will have any significant effects related to traffic, noise, *air quality*, or water quality. (14 CCR § 15332(d).) Here, the Project does not qualify for the Infill Exemption because the Project will have significant environmental impacts related to air quality and indoor air quality. Therefore, the City must prepare an Initial Study to determine the appropriate level of CEQA review before approval, whether an EIR or an MND.

1. There is substantial evidence that the Project will have significant adverse air quality impacts, precluding reliance on the Infill Exemption.

Air quality experts Patrick Sutton, P.E., and Dr. Yilin Tian, Ph.D., from the Baseline Environmental Consulting (“Baseline”) have reviewed the Project, the CE Report, and other relevant documents regarding the Project’s air quality impacts. Baseline concluded that the Project will have significant adverse air quality impacts related to Project construction. (Ex. A at 4.) Baseline recommended that “the City of Los Angeles prepare a revised CEQA analysis to evaluate and mitigate the air quality concerns.” (*Id.*)

Specifically, Baseline found that the Project’s construction would emit diesel particulate matter (“DPM”), a known human carcinogen and toxic air contaminant, from the exhaust of the off-road diesel equipment, posing a health risk to nearby sensitive receptors over the 20-month construction period. (*Id.* at 1-2.) The CE Report noted that nearby sensitive receptors include the pre-school and residences directly south of the site, as close as 40 feet, and the high school 270 feet northeast of the site. (*Id.* at 1-2; CE Report at 2-48.)

However, the CE Report failed to provide a quantitative health risk assessment (“HRA”) of the cancer risks that the Project’s construction DPM emissions would pose to nearby sensitive receptors. (Ex. A at 2.) Instead, the CE Report merely provided a qualitative analysis of construction health risks, concluding without any substantial evidence that the Project would not expose sensitive receptors to significant DPM concentrations. (*Id.*; CE Report at 2-31.)

Baseline thus prepared an HRA using the AERMOD air dispersion model to measure the increased cancer risk to the nearby sensitive receptors exposed to the Project’s construction DPM emissions. (Ex. A at 3.) Baseline calculated that the excess cancer risk to these receptors from the Project’s construction DPM emissions is 24.1 per million over the 20-month construction period. (*Id.*) This far exceeds the cancer risk threshold of 10 per million for the South Coast Air Quality Management District ("SCAQMD"). (*Id.*) Therefore, Baseline concluded that the Project's construction "would expose sensitive receptors to substantial pollutant concentrations and the air quality impact would be significant." (*Id.* at 4.) A full CEQA analysis, whether an MND or EIR, is needed to adequately address and mitigate this impact.

2. There is substantial evidence that the Project will pose significant health risks from indoor air quality impacts, precluding reliance on the Infill Exemption.

Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the CE Report, and other relevant documents regarding the Project's indoor air emissions. These documents provide no analysis of the Project's indoor air quality impacts. Mr. Offermann concludes that the Project will expose its future residents to significant health impacts related to indoor air quality, particularly emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde gas over a very long period of time. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (Ex. B at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The SCAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board's ("CARB") formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk. (*Id.* at 2.)

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR or MND and mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project's formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde ("NAF") resins or ultra-low emitting formaldehyde ("ULEF") resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. (*See*, *e.g. Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 [County applies Air District's "published CEQA quantitative criteria" and "threshold level of cumulative significance"]; *see also Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-11 ["A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"].) The California Supreme Court has shown the importance an air district significance threshold has in providing substantial evidence of a significant adverse impact. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 [estimated emissions in excess of air district's significance thresholds "constitute substantial evidence supporting a fair argument for a significant adverse impact"].) Since expert evidence shows the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City's failure to address the Project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects would still have to be considered pursuant to CEQA. (*Id.* at 801 ["CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"].) In so holding, the Court expressly held that CEQA's statutory language requires lead agencies to disclose and analyze "impacts on a project's users or residents that arise from the project's effects on the environment." (*Id.* at 800.)

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project's users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project's users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a "project's users and residents" must be addressed under CEQA.

The California Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" (*CBIA*, 62 Cal.4th at 800 [emphasis in original].) Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the Project's future residents are human beings, and their health and safety must be subjected to CEQA's safeguards.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts."].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents to cancer risks exceeding SCAQMD's significance threshold for cancer risk of 10 per million. In light of this impact and the City's lack of any evidence to the contrary, the Project does not qualify for the Infill Exemption and must undergo CEQA review before approval.

B. The Project does not qualify for CEQA's Infill Exemption due to the Unusual Circumstances Exception.

The Unusual Circumstances Exception ("Exception") prohibits categorical exemptions where there is a "reasonable possibility" that a project will significantly impact the environment "due to unusual circumstances." (14 CCR § 15300.2(c).) To determine whether the Exception applies, agencies use a two-part test. They first ask whether a project presents unusual circumstances. If it does, they then ask whether there is a reasonable possibility that a significant environmental effect will result from those unusual circumstances. (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086, 1098 (*Berkeley Hillside*).) The California Supreme Court has held that "a party may establish an unusual circumstance with evidence that the project *will* have a significant environmental effect." (*Id.* at 1105 [emph. added].) That evidence, if convincing, necessarily also establishes a reasonable possibility that the project will significantly affect the environment due to those unusual circumstances. (*Id.*)

As discussed above, we have submitted substantial evidence that the Project will have significant impacts related to air quality and indoor air quality. The fact that these impacts will occur constitutes an unusual circumstance, thereby precluding the City's reliance on the Exemption.

Also, the close proximity of sensitive receptors is an unusual circumstance. There is a pre-school and residences directly south of the site, as close as 40 feet, and a high school 270 feet northeast of the site. (CE Report at 2-48.) As a result of this unusual circumstance, the Project has a dramatically higher cancer risk from DPM, as discussed by Baseline. DPM cancer risks are highly dependent on proximity. This is very similar to the case of *Lewis v. Seventeenth Dist. Agric. Assn*. (1985) 165 Cal. App. 3d 823, 831, where the close proximity of residences to a proposed automobile racetrack was held to be an "unusual circumstance" precluding reliance on a CEQA exemption because the proximity created heightened noise impacts.

IV. CONCLUSION

The City cannot rely on a CEQA Infill Exemption because the Project does not meet the terms of the Exemption. Instead, in accordance with CEQA, the City must prepare an initial study, followed by either an MND or EIR, to examine the Project's effects on air quality and indoor air quality before approval. Therefore, SAFER respectfully requests that the PLUM Committee grant its appeal and deny approval of the Project.

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

EXHIBIT A

May 1, 2025
25208-00

Hayley Uno
Lozeau Drury LLP
1939 Harrison St., Suite 150
Oakland, CA 94612

Subject: **Review of Air Quality Impacts Analyzed for the 7014 West Sunset Boulevard Project in the City of Los Angeles**

Dear Ms. Uno:

Baseline Environmental Consulting (Baseline) has reviewed the Air Quality analysis included in the Class 32 Categorical Exemption (CE) for the 7014 West Sunset Boulevard Project (project) in the City of Los Angeles (City), California to determine whether potential environmental impacts related to air quality were appropriately evaluated. According to the City, the project is exempt from CEQA pursuant to State CEQA Guidelines, Section 15332 (Class 32), and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines Section 15300.2 applies. Based on our review, we have identified flaws in the Air Quality analysis used to support the significance determinations for the CE, as described in detail below.

Air Quality Health Risks to Sensitive Receptors

Project construction would generate diesel particulate matter (DPM) emissions from the exhaust of off-road diesel equipment that could pose a health risk to nearby sensitive receptors. The California Air Resources Board has identified DPM as a toxic air contaminant (TAC) based on its potential to cause cancer and other adverse health effects.[1] Adverse health effects associated with particulate matter can vary based on factors such as particle size, source, and chemical composition. DPM is typically composed of carbon particles and a variety of organic compounds including more than 40 known cancer-causing organic substances. Additionally, more than 90 percent of DPM is less than 1 micron in diameter, making it a subset of fine particulate matter ($PM_{2.5}$).

Sensitive receptors near the project site could be exposed to DPM emissions generated during project construction. As mentioned on page 2-48 of the CE, the nearby sensitive receptors include the Sunset Montessori Pre-School adjacent to the south of the project site, residential land uses to

[1] California Air Resources Board, 1998. Initial Statement of Reasons for Rulemaking; Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, June.

the south and to the southeast of the project site as close as 40 feet, and the Hollywood High School 270 feet northeast of the project site. However, the CE did not provide a quantitative assessment of the health risks to nearby sensitive receptors exposed to DPM emissions generated during project construction. Instead, the CE provided a qualitative analysis concluding that the project would not expose sensitive receptors to substantial DPM concentrations. As discussed below, this conclusion is not supported by substantial evidence.

Unsubstantiated Analysis of Construction Health Risks

Regarding the exposure of sensitive receptors to substantial TAC emissions, the Air Quality Assessment[2] for the CE states the following on page 31:

> *Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. The California Office of Environmental Health Hazard Assessment (OEHHA) has not identified short-term health effects from DPM due to the uncertainty in assessing cancer risk from short-term exposures. In addition, SCAQMD guidance on the analysis of cancer risks from mobile source diesel emissions does include recommendations on the analysis of short-term construction activities.*

This statement is contrary to, and unsupported by, the Office of Environmental Health Hazard Assessment's (OEHHA) guidance for preparing health risk assessments.[3] According to OEHHA, the uncertainty in assessing very short-term exposures to TACs only applies to construction activities lasting less than two months. As stated in the CE, construction of the project would occur over an approximately 20-month period, which is substantially longer than the two-month limitation for short-term exposures recommended by OEHHA.

Furthermore, OEHHA states that there is valid scientific concern regarding the health effects on children exposed to airborne carcinogens such as DPM from short-term construction activities lasting more than two months. This is because infants and children are generally more susceptible to health effects from exposure to carcinogens than adults. In addition, when accounting for the higher breathing rate per body mass and higher fraction of time at home for a child versus an adult, the estimated cancer risk for a child can be up to 48 times higher than an adult exposed to the same concentration of DPM. Therefore, the short-term nature of construction activities described in the CE is not substantial evidence for dismissing construction-related health risks, especially regarding the health risks posed to nearby children.

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[2] Kimley Horn, 2024. Air Quality Assessment, 7022 Sunset Boulevard Project, City of Los Angles, California. August.

[3] Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.

Construction Health Risk Analysis

Baseline has prepared a health risk assessment to estimate the incremental increase in cancer risk at nearby sensitive receptors exposed to DPM emissions during project construction. The annual average concentrations of DPM during construction were estimated in the vicinity of the project using the U.S. Environmental Protection Agency's AERMOD air dispersion model. For this analysis, emissions of exhaust coarse particulate matter (PM_{10}) were used as a surrogate for DPM. Exhaust DPM emissions from off-road diesel construction equipment were obtained from Appendix A of the Air Quality Assessment for the CE. To obtain daily emission rates, the total off-road equipment exhaust PM_{10} emissions estimated during project construction were averaged over the total working days (20 months of construction, 434 work days). The input parameters and assumptions used for estimating emission rates of DPM from off-road diesel construction equipment are provided in **Attachment A**.

The exhaust from off-road equipment was represented in the AERMOD model as an area source encompassing the project site with a unit emission rate of 1 gram per second, which was later scaled by the actual average emission rate. A variable emissions scenario was used based on the assumption that daily emissions from project construction would occur from 7:00 AM to 9:00 PM Monday through Friday.

A uniform grid of ground-level receptors spaced 20 meters apart with a breathing height of 1.8 meters was encompassed around the project site as a means of developing isopleths (i.e., concentration contours) that illustrate the air dispersion pattern of emissions from the construction site. In addition, discrete receptors were created adjacent to the project site to evaluate DPM concentrations at the maximally exposed individual resident (MEIR). The AERMOD model input parameters included five years of meteorological data from Station CELA (Central L.A.) located about 7 miles southeast of the project site.

Based on the annual average concentrations of DPM estimated using the air dispersion model, potential health risks were evaluated for the MEIR located in the residence south of the project site. The incremental increase in cancer risk from on-site DPM emissions was assessed for an infant exposed to DPM starting from birth. It was assumed that the MEIR would be exposed to an annual average DPM concentration over the entire estimated 20-month duration of construction. This exposure scenario represents the most sensitive individual who could be exposed to adverse air quality conditions in the vicinity of the project site. The input parameters and results of the health risk assessment are included in **Attachment A**.

Table 1 summarizes the estimated health risks at the MEIR due to unmitigated DPM emissions from project construction. The estimated cancer risk at the MEIR from exposure to DPM emissions during project construction is approximately 24.1 in a million, which exceeds the South Coast Air Quality Management District's cancer-risk threshold of 10 in a million. Therefore, project construction would expose sensitive receptors to substantial pollutant concentrations and the air quality impact would be significant.

Table 1. Health Risks at MEIR During Project Construction

Construction Scenario	Cancer Risk (per million)
Unmitigated Emissions	24.1
Threshold of Significance	10
Threshold Exceedance?	**Yes**

Source: See Attachment A

Conclusions

Based on our review of the CE, construction of the project would result in significant impact related to air quality. As a result, Baseline recommends that the City of Los Angeles prepare a revised CEQA analysis to evaluate and mitigate the air quality concerns described above.

Sincerely,

Patrick Sutton
Principal Environmental Engineer

Yilin Yian
Project Environmental Engineer

ATTACHMENT A

Health Risk Assessment

Summary of AERMOD Model Parameters, Assumptions, and Results for DPM Emissions from Construction

AERMOD Model Parameters and Assumptions			
Source Type	**Units**	**Value**	**Notes**
Area Source: Off-Road Equipment Exhaust (DPM)			
Average Daily DPM Emission	lb/day	0.230	Exhaust PM10 emissions from offroad equipment were obtained from Staff Report Exhibits D Environmental Studies - Air Quality Assessment Attachment A - Air Quality Modeling Data. This average daily DPM emission rate was calculated based on the total off-road PM10 exhaust emissions and construction duration of 20 months (434 workdays).
Average Hours/Work Day	hours/day	14.00	Assumed Monday through Friday: 7 am to 9 pm
DPM Emission Rate	gram/second	0.00208	This DPM emission rate is used to convert the unit emission results from AERMOD into the project emission results.
Release Height	meters	5.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.4	USEPA, 2022
AERMOD Model Results			
Sensitive Receptor	**Pollutant**	**Annual Average Concentration**	**Notes**
MEIR	DPM ($\mu g/m^3$)	0.0881	Nearest residential receptor

Notes:

DPM = diesel particulate matter

PM10 = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

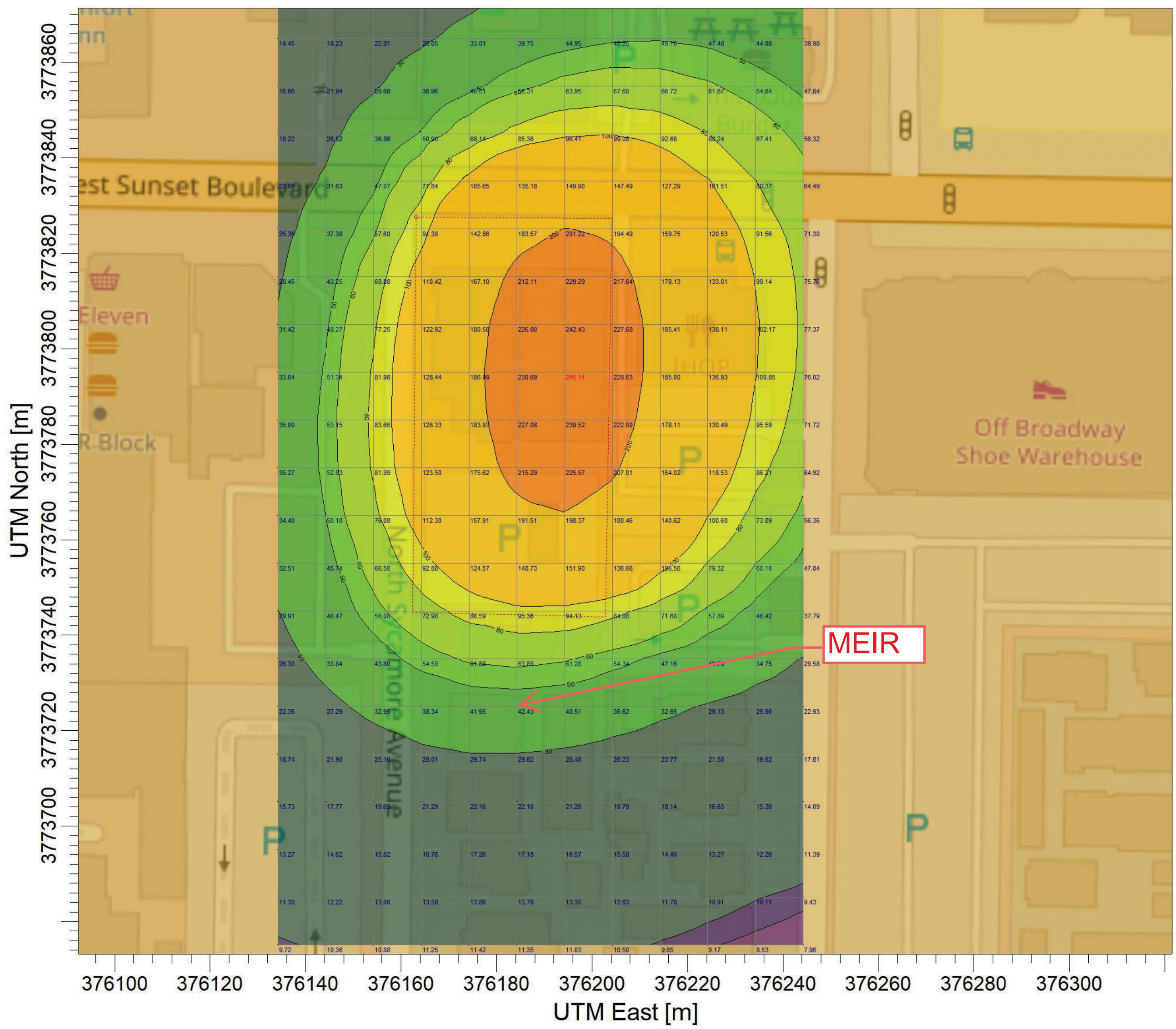
$\mu g/m^3$ = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. Guide to Air Quality Assessment in Sacramento County. June.

U.S. Environmental Protection Agency (USEPA), 2022. User's Guide for the AMS/EPA Regulatory Model (AERMOD).

PROJECT TITLE:

7014 West Sunset Boulevard Project
Construction Off-Road Equipment Exhaust PM10



PLOT FILE OF PERIOD VALUES AVERAGED ACROSS 0 YEARS FOR SOURCE GROUP: ALL

ug/m^3

Max: 245 [ug/m^3] at (376194.24, 3773795.08)

8 | 9 | 10 | 30 | 50 | 60 | 80 | 100 | 200 | 245

COMMENTS:

Concentrations based on unit emission rate (1 g/s)

SOURCES:

1

COMPANY NAME:

Baseline Environmental Consulting

RECEPTORS:

252

OUTPUT TYPE:

Concentration

SCALE:

1:1,442

0 0.05 km

MAX:

245 ug/m^3

PROJECT NO.:

25208-00

AERMOD View - Lakes Environmental Software

Summary of Health Risk Assessment at the Maximally Exposed Individual Resident

Health Risk Assessment Parameters and Results			
Inhalation Cancer Risk Assessment for DPM	Units	MEIR 0-2 Year Infant	Notes
DPM Concentration (C)	$\mu g/m^3$	0.09	AERMOD Annual Average
Daily Breathing Rate (DBR)	L/kg-day	1090	95th percentile (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$mg\text{-}m^3/\mu g\text{-}L$	0.000001	Conversion of µg to mg and L to m^3
Dose (D)	mg/kg/day	0.000092	C*DBR*A*EF*CF_D (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(mg/kg/day)^{-1}$	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.7	Based on total construction period of 20 months
Averaging Time (AT)	years	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	1	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	24.1	D*CPF*ASF*ED/AT*FAH*CF (OEHHA, 2015)

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu g/m^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

$(mg/kg/day)^{-1}$ = 1/milligrams per kilograms per day

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

ATTACHMENT B

Staff Resumes

Patrick Sutton, P.E.

BASELINE ENVIRONMENTAL CONSULTING

Principal Environmental Engineer

Areas of Expertise

Air Quality, GHGs, Noise, Hazardous Materials, Geology, and Hydrology

Education

M.S., Civil and Environmental Engineering, University of California – Davis

B.S., Environmental Science, Dickinson College

Registration

Professional Engineer No. 13609 (RI)

Years of Experience

20 Years

Patrick Sutton is an environmental engineer who specializes in the assessment of hazardous materials released into the environment. Mr. Sutton prepares technical reports in support of environmental review, such as Phase I/II Environmental Site Investigations, Air Quality Reports, and Health Risk Assessments. He has prepared numerous CEQA/NEPA evaluations for air quality, GHGs, noise, energy, geology, hazardous materials, and water quality related to residential, commercial, and industrial projects, as well as large infrastructure developments. His proficiency in a wide range of modeling software (AERMOD, CalEEMod, RCEM, CT-EMFAC) as well as relational databases, GIS, and graphics design allows him to thoroughly and efficiently assess and mitigate environmental concerns.

For mixed-use development projects, Mr. Sutton has prepared health risk assessments for sensitive receptors exposed to toxic air contaminants based on air dispersion modeling. For large transportation improvement projects, Mr. Sutton has prepared air quality and hazardous materials technical reports in accordance with Caltrans requirements. The air quality assessments include the evaluation of criteria air pollutants, mobile source air toxics, and GHG emissions to support environmental review of the project under CEQA/NEPA and to determine conformity with the State Implementation Plan. The hazardous materials investigations include sampling and statistically analysis of aerially-deposited lead adjacent to highway corridors. Mr. Sutton is also an active member of ASTM International and is the author of the Standard Practice for Low-Flow Purging and Sampling Used for Groundwater Monitoring.

Project Experience

Alameda CTC I-80/Ashby Avenue Interchange Improvements. Prepared Phase I/II ESAs to evaluate contaminants of potential concern in soil and groundwater. Prepared Air Quality Report to determine the project's conformity to federal air quality regulations and support CEQA/NEPA environmental review.

Oakland Downtown Specific Plan EIR. Prepared a program- and project-level Air Quality and GHG Emissions analysis. Developed a mitigation measure with performance standards to ensure GHG emissions from future projects comply with the Citywide 2030 GHG reduction target.

CCTA I-680 Express Lanes from SR 84 to Alcosta Boulevard Project. Prepared Initial Site Assessment and Preliminary Site Investigation to evaluate contaminants of potential concern in soil and groundwater. Prepared Air Quality Report to determine the project's conformity to federal air quality regulations and to support environmental review of the project under CEQA and NEPA.

Altamont Corridor Expressway (ACE/Forward) Project EIR/EIS. Prepared a program- and project-level Hazardous Materials analysis for over 120 miles of railroad corridor from San Jose to Merced. Hazardous materials concerns, such as release sites, petroleum pipelines, agricultural pesticides, and nearby school sites were evaluated in GIS.

BART Silicon Valley Extension Project. Prepared Initial Site Assessment and Hazardous Materials EIS/EIR section for extending 6 miles of proposed BART service through the Cities of San Jose and Santa Clara.

Yilin Tian, Ph.D.

BASELINE ENVIRONMENTAL CONSULTING

Project Environmental Engineer

Areas of Expertise

Air Quality, GHG, Noise, Energy, and Environmental Compliance

Education

Ph.D./M.S., Environmental Science and Engineering, Clarkson University

B.S., Environmental Science, Beijing University of Technology

Registrations/Certifications

40-hour HAZWOPER training

Engineer-In-Training, No. 167986

Years of Experience

13 Years

Yilin Tian is an environmental engineer who specializes in the analysis of air quality and human exposure to toxic air contaminants. She has extensive experience conducting environmental reviews under NEPA and CEQA, focusing on air quality, greenhouse gas (GHG) emissions, noise and vibration, and energy impacts. Yilin is familiar with federal, state, and local environmental regulations and guidelines related to NEPA/CEQA review. She has worked on variety of land uses development projects, including large mixed-use infill, wetland restoration, quarry use modification, levee improvement, and highway expansion projects. In addition, she has collaborated with agencies such as SFPUC, CPUC, and EBMUD. Yilin is experienced with preparing health risk assessments for sensitive receptors exposed to toxic air contaminants during construction and operation. Yilin is proficient with air pollution models (e.g., CalEEMod , AERMOD, and CT-EMFAC), noise models (e.g., FHWA TNM, FHWA RCNM, and SoundPLAN), geospatial data analysis, and database management.

Besides NEPA/CEQA studies, Yilin has worked with the Bay Area Air Management District (BAAQMD) to improve existing emissions estimation techniques and update emission inventories related to wood-burning devises and ammonia emissions in the Bay Area. Her strong background in statistics and air pollutants emissions allows her to process and analyze data properly and efficiently.

Yilin has assisted the City of Berkeley and the San Francisco Public Utilities Commission (SFPUC) with environmental compliance and mitigation monitoring, including reviewing submittals and performing environmental field inspections. Beyond that, Yilin has experience with Phase I Environmental Site Assessments, air monitoring, and noise monitoring.

Project Experience

Potrero Yard Modernization Project EIR. Prepared Supplemental Air Quality, HRA, and Noise and Vibration analysis for the refined project design of the Potrero Yard Modernization Project.

Belvedere Seismic Upgrade Project EIR. Prepared Air Quality, GHG Emissions, and Noise and Vibration analysis for the installation of sheet piling along specific roadway segments in an area of existing levees in Belvedere.

Saratoga Housing Element Update EIR. Prepared noise and vibration analysis for the Saratoga General Plan Housing Element Update.

I-80/Ashby Avenue Interchange Improvement Project. Prepared Air Quality Report to determine the project's conformity to federal air quality regulations and to support environmental review of the project under CEQA and NEPA.

Residential Wood Combustion for San Francisco Bay Area. Updated the methodology and datasets used by the BAAQMD to quantify residential wood combustion emissions within the San Francisco Bay Area Air Basin.

Environmental Compliance Monitoring for the City of Berkeley. Reviewed noise reduction plans submitted by the developers against the requirements of the MMRP and standard conditions of approval.

EXHIBIT B

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Date: March 29, 2025

To: Hayley Uno
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 7014 West Sunset Boulevard Project, Los Angeles, CA. (IEE File Reference: P-4860)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson, 2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the 7014 West Sunset Boulevard Project, Los Angeles, CA, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 482 μg/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million).

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m^3, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 520 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde emission rate (µg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 air changes per hour (ach), with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The 7014 West Sunset Boulevard Project, Los Angeles, CA is close to roads with moderate to high traffic (e.g., W. Sunset Boulevard, N. Le Brea Avenue, N. Highland Avenue, N. Sycamore Avenue, etc.). Thus, the Project is located in a sound impacted area.

According to the Department of City Planning Recommendation Report - 7014 West Sunset Boulevard Project, Los Angeles, CA (City of Los Angeles, 2025), Table 10 of Appendix C, Acoustic Assessment, the estimated ambient plus Project noise levels range from 58.4 to 72.1 dBA (estimates only, not CNEL or Ldn measurements). In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a minimum of a one-week period and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be required. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. Department of City Planning Recommendation Report - 7014 West Sunset Boulevard Project, Los

Angeles, CA (City of Los Angeles, 2025) the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 520 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient $PM_{2.5}$ concentrations) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS AND THE CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health, Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 54 ft^2 (2.4% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.