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June 17, 2025

Los Angeles City Council
c/o Office of the City Clerk
City Hall, Room 395
Los Angeles, California 90012

Attention: PLUM Committee

Dear Honorable Members:

**APPEAL RESPONSES AND RESPONSES TO COMMENT LETTER FOR THE NEW
BEATRICE PROJECT; CASE NO. ENV-2020-3533-EIR-A1; CF 17-1041-S1**

On April 2, 2025, the City Planning Commission (CPC) issued a Letter of Determination certifying the New Beatrice West Project Environmental Impact Report (EIR) and adopted the EIR's Findings, Statement of Overriding Considerations, and the Mitigation Monitoring Program in conjunction with the previously approved Project that would result in the demolition of an existing 23,072 square-foot office building and two accessory buildings, totaling 7,188 square feet; the retention of an 87,881 square-foot office building; and the construction of a new eight-story office building with up to 196,100 square feet of office space and 3,400 square feet of ground floor commercial space. Upon completion, the Project would total 287,381 square feet of floor area on an approximately 4.5-acre site, with a Floor Area Ratio of 1.46:1. The new office building would include three above-grade and two subterranean levels of parking (additional parking would be provided in the surface parking lot adjacent to the existing office building located at 12541 West Beatrice Street) and would have a maximum building height of 135 feet to the top of the parapet.

On April 8, 2025, Lozeau & Drury, LLP, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER), appealed Case No. ENV-2020-3533-EIR, alleging the EIR fails as an informational document, does not comply with the California Environmental Quality Act (CEQA), and must be revised and recirculated. The appeal points are summarized and responded to below.

Additionally, on March 12, 2025, Lozeau and Drury, LLP, on behalf of SAFER, submitted a 65-page comment letter to the Commission Office in relation to the CPC's consideration of the New Beatrice Project EIR (SAFER Letter). However, the letter did not comply with the CPC Secondary Submission rules, which limit submissions to two pages plus accompanying photographs and, therefore, were not transmitted to the CPC for their consideration. While SAFER's Appeal did not

include or reference the SAFER Letter, responses to the SAFER Letter are enclosed in the attached Memorandum prepared by Eyestone Environmental, dated June 16, 2025.

APPEAL POINT AND STAFF RESPONSE

Appeal Point 1

The Project's EIR fails as an informational document and the EIR must be revised and recirculated to comply with CEQA.

Staff Response 1

The Appellant makes a broad claim that the Project's EIR is inadequate but does not cite specific examples or provide any evidence of how the EIR does not meet the requirements of CEQA. The Project's EIR has been prepared in compliance with the CEQA Guidelines. The Draft EIR provides thorough and comprehensive analyses of all required CEQA impact areas based on appropriate methodologies and, where appropriate, supported by expert technical analyses as well as input from numerous other agencies. For each of the issue areas where significant impacts have been identified, mitigation measures have been proposed to reduce impacts where feasible. As such, no additional revisions are necessary, and, as previously concluded, there are no changes necessary that would meet the definition of "significant new information," there are no changes that would result in any new significant impacts or increase an impact identified in the EIR, and thus recirculation is not necessary.

Appeal Point 2

Members of the Appellant live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

Staff Response 2

The EIR has fully addressed the environmental impacts of the Project, including air quality, transportation impacts, and other environmental topics, which have been properly mitigated to less than significant levels, where applicable.

Air quality impacts of the Project were all found to be less than significant without mitigation. The Appellant has failed to provide any details or evidence on any deficiency of the air quality analysis.

Transportation impacts of the Project were all found to be less than significant without mitigation, except that impacts related to Vehicle Miles Traveled (VMT) were found to be less than significant with mitigation, and a mitigation measure for a Transportation Demand Management (TDM) program (TR-MM-1) was incorporated into the Project. The mitigation measure would reduce VMT impacts of the Project to less than significant levels.

Pursuant to SB 743, traffic congestion is not considered an environmental impact for purposes of CEQA analysis. SB 743 shifts focus from mitigating congestion through traditional infrastructure solutions (like widening roads) to reducing VMT. This change aims to reduce greenhouse gas emissions, promote multi-modal transportation, and encourage infill development. Instead of focusing on congestion relief, SB 743 prioritizes reducing the total amount of driving by promoting alternatives like transit, biking, and walking, and changing land use patterns. Thus, the EIR fully considered transportation impacts and concluded less than significant impacts after mitigation.

Conclusion

Planning staff has evaluated the appeal and determined that it does not raise any significant new issues regarding the adequacy of the EIR and/or the Project entitlements. No new substantial evidence was presented to dispute the findings of the EIR. The EIR is comprehensive and has been completed in full compliance with CEQA, and no new or more significant impacts have been identified resulting from the Appellants' comments. Therefore, in consideration of all of the facts, Planning staff recommends that the Planning and Land Use Committee deny the appeal and sustain the decision of the City Planning Commission to certify the New Beatrice West Project EIR.

Sincerely,

VINCENT P. BERTONI, AICP
Director of Planning

Kathleen King

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City Planner

VPB:MZ:MN:KK

Enclosures:

SAFER March 12, 2025 Comment Letter

Response to SAFER March 12, 2025 Comment Letter, as prepared by Eyestone Environmental



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Via Email

March 12, 2025

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Re: Comment on the Draft (DEIR) and Final Environmental Impact Report (FEIR) for New Beatrice West Project – March 13, 2025, Planning Commission Hearing

Dear City Planning Commission President Lawshe and Honorable Members of the Planning Commission,

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility (“SAFER”), and its members living, working and recreating in and around the City of Los Angeles, regarding the Draft Environmental Impact Report (“DEIR”) and Final Environmental Impact Report (“FEIR”), prepared for the New Beatrice West Project (SCH #2020120119, ENV-2020-3533-EIR), which proposes the construction of a new, eight-story office building with up to 196,100 square feet of office space, and 3,400 square feet of ground floor commercial space, and a five-level parking structure located at 12531-125553 West Beatrice

Street, 12565-12575 West Beatrice Street, and 5410-5454 South Jandy Place in the City of Los Angeles. ("Project"). SAFER adopts by reference all comments filed this matter.

SAFER is concerned that the DEIR and FEIR fail as informational documents and fail to impose all feasible mitigation measures to reduce the Project's impacts. SAFER requests that the Planning Commission direct Planning staff to address these shortcomings in a revised final environmental impact report ("RFEIR") and recirculate the RFEIR prior to considering approvals for the Project.

PROJECT DESCRIPTION

The Project is located at 12531-12553 W. Beatrice Street, 12565-12575 W. Beatrice Street, and 5410-5454 S. Jandy Place, Los Angeles, California 90066. The Project includes the construction of a new eight-story office building with a total floor area of 199,500 square feet comprised of 196,100 square feet of office space and 3,400 square feet of ground floor commercial space. The Project is proposed on a 196,463 square foot (4.51 acre) site.

The Project site is currently occupied by a 23,072 square foot office building and two accessory buildings of 5,044 and 2,144 square feet at 12575 W. Beatrice Street, and an 87,881 square foot office building at 12541 W. Beatrice Street. As part of the Project, the existing structures at 12575 W. Beatrice Street would be removed while the existing office building at 12541 W. Beatrice Street would be retained. The existing property lot lines would be adjusted to accommodate a corner landscaped parcel, a building site for the construction of the proposed new building at 12575 W. Beatrice Street, and a parcel for the existing building (12541 W. Beatrice Street). When the lot line adjustment is complete, the lot at 12575 W. Beatrice Street would contain approximately 103,281 square feet (2.37 acres) and the lot at 12541 W. Beatrice Street would contain approximately 93,182 square feet (2.14 acres). An approximately 289 square foot lot would be created at the corner of Jandy Place and Beatrice Street for landscaping and open space purposes.

The Project would provide 811 parking spaces, fulfilling the requirements of the Los Angeles Municipal Code ("LAMC"). 791 of the parking spaces would be provided in five levels of structured parking, including three levels above grade and two subterranean levels, with the remaining spaces provided in a surface parking area. The Project would include landscaped courtyards and walkways to connect and integrate the proposed building with the remaining office building to create an integrated office campus. The Project would provide approximately 31,233 square feet of landscaping throughout the Project site.

The Project was previously considered and approved by the City under Case No. CPC-2016-1208-CU-SPR, which was approved by the City Planning Commission on August 18, 2017, and Case No. AA-2017-397-PMEX, which was approved by the Advisory Agency on June 7, 2018. The City prepared and adopted a mitigated negative declaration (Case No. ENV-2016-1209-MND). Two appeals were filed and heard by the City. The appeal of Case No. CPC-2016-1208-

CU-SPR was denied by the City Council on February 7, 2018; and the appeal of Case No. AA-2017-397-PMEX was denied by the City Planning Commission on November 19, 2018.

Subsequently, two petitions for writ of mandate were filed and consolidated challenging the City's approvals of the Project, on the grounds that the City's MND was inadequate under CEQA (*Karney Management v. City of Los Angeles*, Case No. BS172677 [Consolidated with Case No. 18STCP03226]). The Honorable John A. Torribio of the Los Angeles County Superior Court ruled that the MND was inadequate as to aesthetics, noise and traffic. On January 21, 2020, the court entered a judgment granting the petition for writ of mandate as to the CEQA cause of action and denying the remainder of the causes of action. The judgment vacated the City's approval of the MND and required an EIR to be prepared. However, the judgment did not invalidate the underlying approvals.

I. LEGAL STANDARD

CEQA requires public agencies to analyze the potential environmental impacts of their proposed actions in an EIR. PRS § 21100. "The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal* ("*Laurel Heights I*") (1988) 47 Ca.3d.376, 390 (internal quotations omitted).

CEQA has two primary purposes. First CEQA is designed to inform decision makers and the public about the potential significant environmental effects of a project.¹ "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"² The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."³ As the CEQA Guidelines explain, "[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected."⁴

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring consideration of environmentally superior alternatives and adoption of all

¹ Pub. Resources Code § 21061; CEQA Guidelines §§ 15002(a)(1); 15003(b)-e; *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 517 ("[T]he basic purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.").

² *Citizens of Goleta Valley*, 52 Cal.3d at p. 564 (quoting *Laurel Heights I*, 47 Cal.3d at 392).

³ *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810; see also *Berkeley Keep Jets Over the Bay v. Bd. Of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*") (purpose of EIR is to inform the public and officials of environmental consequences of their decisions *before* they are made).

⁴ CEQA Guidelines § 15003(b).

feasible mitigation measures.⁵ The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.”⁶ If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment” to the greatest extent feasible and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”⁷

While courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.’”⁸ As courts have explained, a prejudicial abuse of discretion occurs if “the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.”⁹ “The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail ‘to enable who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.’”¹⁰

II. THE DEIR AND FEIR FAIL TO DISCLOSE, ANALYZE AND MITIGATE POTENTIALLY SIGNIFICANT IMPACTS

An EIR must fully disclose all potentially significant impacts of a Project and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency’s significance determination with regard to each impact must be supported by accurate scientific and factual data.¹¹ An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.¹²

Moreover, the failure to provide information required by CEQA is a failure to proceed in the manner required by CEQA.¹³ Challenges to an agency’s failure to proceed in the manner

⁵ CEQA Guidelines § 15002(a)(2), (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at p. 564.

⁶ CEQA Guidelines § 15002(a)(2).

⁷ *PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090(a), 15091(a), 15092(b)(2)(A), (B); Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.

⁸ *Berkeley Jets*, 91 Cal.App.4th at p. 1355 (emphasis added) (quoting *Laurel Heights I*, 47 Cal.3d at 391, 409, fn. 12).

⁹ *Berkeley Jets*, 91 Cal.App.4th at p. 1355; *see also San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722 (error is prejudicial if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process); *Galante Vineyards*, 60 Cal.App.4th at p. 1117 (decision to approve a project is a nullity if based upon an EIR that does not provide decision-makers and the public with information about the project as required by CEQA); *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946 (prejudicial abuse of discretion results where agency fails to comply with information disclosure provisions of CEQA).

¹⁰ *Sierra Club*, 6 Cal.5th at p. 516 (quoting *Laurel Heights I*, 47 Cal.3d at 405).

¹¹ CEQA Guidelines § 15064(b).

¹² *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.

¹³ *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.

required by CEQA, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project's environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency's factual conclusions.¹⁴ In reviewing challenges to an agency's approval of an EIR based on a lack of substantial evidence, the court will "determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements."¹⁵

Additionally, CEQA requires agencies to commit to all feasible mitigation measures to reduce significant environmental impacts.¹⁶ In particular, the lead agency may not make required CEQA findings, including finding that a project impact is significant and unavoidable, unless the administrative record demonstrates that it has adopted all feasible mitigation to reduce significant environmental impacts to the greatest extent feasible.¹⁷

Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.'¹⁸

A. The DEIR and FEIR Fail to Analyze and Mitigate Potentially Significant Impacts Resulting from Noise

Noise expert Ani Toncheva, expert noise consultant of environmental consulting firm Wilson Ihrig, performed an independent review and analysis of the Project's detrimental noise impacts, including review of the DEIR, DEIR Appendix I (Noise Calculation Worksheets, FEIR, and FEIR Appendix 2 (Supplemental Noise Worksheets). Ms. Toncheva's letter regarding the review is attached below as "Exhibit A".

Ms. Toncheva notes several adverse effects of noise, including noise-induced hearing loss, speech interference, sleep disturbance, cardiovascular and physiological effects (such as increased blood pressure, elevated heart rate, and vasoconstriction), and impaired cognitive performance.¹⁹ These adverse effects are likely to occur due to the Project's proposed unrealistic construction mitigation, errors in the operational noise analysis, and incomplete construction vibration mitigation.

The FEIR'S construction mitigation is unrealistic and does not affect all receivers. Ms. Toncheva states that the DEIR and FEIR make "unrealistic claims" about the reduction achieved

¹⁴ *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.

¹⁵ *Id.*, *Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.

¹⁶ CEQA Guidelines § 15002(a)(2).

¹⁷ PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090, 15091; *Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.

¹⁸ *Berkeley Jets*, 91 Cal.App.4th at 1355.

¹⁹ Ex. A, at 2; *Guidelines for Community Noise*, eds B. Berglund, T. Lindvall, and D. Schwela, World Health Organization, Geneva, Switzerland, 1999 (<https://iris.who.int/handle/10665/66217>).

by Mitigation Measure NOI-MM-1.²⁰ This measure states that “a temporary sound barrier shall be designed to provide a minimum of 15-dB noise reduction at the ground level” at the residences across Beatrice Street (“R1”).²¹ However, a temporary sound barrier or heavy vinyl noise curtain typically used on construction sites would only achieve 5-10 dB reduction, a fact acknowledged by the FEIR and the methodology adopted therein.²²

Additionally, NOI-MM-1 only applies to ground floor residences and does not address mitigation for upper floors. A typical construction site barrier would only provide relief to multiple floors if the equipment is within 10 feet, however, the calculations presented in Appendix I of the DEIR show that most of the construction will be located beyond this distance.²³ Moreover, the DEIR predicates construction noise levels that exceed the adopted thresholds by up to 22.9 dB at R1, and acknowledges that this is a significant impact.²⁴ Ms. Toncheva suggests implementation of measures such as source mitigation like enclosures, temporary shielding around stationary equipment, and jackhammer jackets; window coverings on the receiver side; and a noise monitoring program during construction.²⁵ Therefore, the FEIR should be updated to reflect a realistic barrier reduction and increase noise mitigation to address the acknowledged and unmitigated significant noise impacts.

A public agency may not rely on mitigation measures of uncertain efficacy or feasibility. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available).) “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (14 CCR § 15364.) Mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments. (14 CCR § 15126.4(a)(2).) NOI-MM-1 fails to meet these legal standards.

Furthermore, the DEIR’s operational noise analysis contains multiple errors and fails to identify potentially significant noise impacts. For instance, the DEIR does not have a figure showing the layout and results of the modeling for mechanical noise from rooftop equipment.²⁶ However, Appendix I shows the reference sound power levels used in the modeling and indicates that the modeled results of predicted mechanical noise levels are at the first-floor residences.²⁷ These predictions ignore the effect on the upper floors of R1 residences, which would be closer to the rooftop equipment. Ms. Toncheva states that the DEIR’s estimated noise level at R1 of 37.1 dB is grossly underestimated, with a more realistic figure being 61-65 dBA (depending on the floor).²⁸ This would exceed the significance threshold of 55.8 dBA for operational noise presented

²⁰ Ex. A, at 3.

²¹ FEIR, at III-4.

²² Ex. A, at 3.

²³ Id.

²⁴ DEIR, at IV.I-35; Ex. A, at 3.

²⁵ Id.

²⁶ Id. At 4; DEIR IV.1-31.

²⁷ DEIR, Appendix I, at 117-118.

²⁸ DEIR, IV.1-13; Ex. A, at 4.

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Comment on the DEIR and FEIR for the New Beatrice Hotel Project

City of Palm Springs

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in the DEIR. The DEIR (per NOI-PDF-2) also states that “all outdoor mounted mechanical equipment will be screened from off-site noise-sensitive receptors,” but does not provide details on the expected reduction.²⁹ The FEIR should be updated to provide a figure showing the relevant modeling used for the analysis, correct errors in the predictions including evaluating levels closer to the rooftop noise sources, provide information on measure NOI-PDF-2, and show that mechanical noise levels are not expected to exceed operational noise threshold with implemented shielding.

Finally, the DEIR’s discussion of construction vibration mitigation is incomplete. The DEIR acknowledges that “vibration impacts associated with the Project construction with respect to human annoyance would be potentially significant,” concluding that the Project’s vibration impacts with respect to human annoyance are significant and unavoidable.³⁰ However, the DEIR only considered wave barriers as potential mitigation, although other vibration mitigation measures such as buffer distances for certain equipment, or coordinate with the recording studio hours of operation to avoid impacting studio operations.³¹ The FEIR should be updated to consider other additional vibration mitigation measures.

B. The DEIR and FEIR Fail to Analyze and Mitigate Potentially Significant Indoor Air Quality Impacts

Indoor air quality expert Francis J. Offermann, P.E., C.I.H., of Indoor Environmental Engineering, conducted an independent review and analysis of the Project’s impact on indoor air quality. Mr. Offermann’s comment letter regarding his review of the Project is attached below as “Exhibit B”.

Mr. Offermann states that the Project will result in significant cancer risks from exposures to formaldehyde released by the building materials and furnishings.³² The Project contains commercial spaces which will be constructed with CARB Phase 2 Formaldehyde ATCM materials and ventilated with the minimum code required amount of outdoor air. Based on Mr. Offermann’s modeling, the Project’s average 70-year lifetime formaldehyde daily dose is 70.9 ug/day, which is 1.77 times the California Proposition 65 Safe Harbor Levels, No Significant Risk Levels (NSRL) for carcinogens, and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million.³³ This impact, combined with the preexisting average outdoor air concentration of formaldehyde in California, which carries a risk of 1.85. per million,³⁴ should be analyzed in a revised EIR, and all feasible mitigation measures should be implemented to reduce this impact.

²⁹ DEIR, IV.1-32; Ex. A, at 4.

³⁰ DEIR, IV.1-55-56.

³¹ Ex. A, at 4.

³² Ex. B, at 4.

³³ Id.

³⁴ Id.

Mr. Offermann states that a revised EIR should incorporate a pre-construction building material/furnishing formaldehyde emissions assessment.³⁵ In order to evaluate and analyze the potential impacts from formaldehyde, the assessment should do the following:

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.³⁶
2. Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m² of material/m² floor area, units of furnishings/m² 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).³⁷
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/m²-h) and the area (m²) 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.³⁸
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 3.³⁹
5. Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m³) 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 (m³/h) for the IAQ Zone.⁴⁰
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).⁴¹
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

³⁵ Id. at 5-10.

³⁶ Id. at 6.

³⁷ Id.

³⁸ Id.

³⁹ Id. at 8.

⁴⁰ Id.

⁴¹ Id. at 8-9.

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.

- a. Source mitigation:
 - i. reducing the amount materials and/or furnishings that emit formaldehyde
 - ii. substituting a different material with a lower area-specific emission rate of formaldehyde
- b. Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings:
 - i. increasing the design minimum outdoor air ventilation rate to the IAQ Zone.⁴²

Mr. Offermann also states that the Project will cause negative impacts due to lack of outdoor air ventilation. The tight building 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.⁴³ In order to design the Project building 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 should be conducted over a minimum of a one-week period, which in concert with a mechanical supply of outdoor air ventilation, will allow occupants to balance exterior noise reduction with having a habitable interior environment.⁴⁴

Another potential significant impact requiring revision of the FEIR is the outdoor concentration of PM_{2.5}. The Project site already has an existing cancer risk of 460 per million due to the site's high concentrations of ambient air contaminants from high levels of motor vehicle traffic.⁴⁵ Mr. Offermann concludes that the annual average of PM_{2.5} from the Project will exceed the California and National PM_{2.5} standards, and warrants installation of high efficiency air filters in all mechanically supplied outdoor air ventilation systems.⁴⁶ In addition, air quality analyses should be conducted to determine the concentrations of PM_{2.5} people inhale each day, including cumulative impacts from project-related emissions, existing and future emissions from local PM_{2.5} sources upon the outdoor air concentration at the Project site.⁴⁷

Due to the foregoing indoor air quality impacts, further analysis and mitigation is needed. Mr. Offermann suggests the following indoor air quality impact mitigation measures:

1. 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

⁴² Id. at 9.

⁴³ Id. at 10.

⁴⁴ Id. at 11.

⁴⁵ Id.

⁴⁶ Id. at 12.

⁴⁷ Id. at 11.

formaldehyde (ULEF) resins, do not ensure 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 ensure that the OEHHA cancer risk of 10 per million is met.

- a. 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.
2. 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/ft² of floor area. Following installation of the system conduct testing and balancing to ensure 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.
3. 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.

The Project will have a potentially significant effect on indoor air quality. The DEIR and FEIR fail to properly disclose, analyze and mitigate the Project's potential impacts to indoor air quality. Therefore, the FEIR should be revised to address these issues.

C. The Statement of Overriding Consideration Must Consider Whether the Project Provides Employment Opportunities for Highly Trained Workers

The DEIR concludes that the project will have significant and unavoidable environmental impacts related to noise and vibration.⁴⁸ Therefore, in order to approve the Project, CEQA requires the City to adopt a statement of overriding considerations, providing that the Project's overriding benefits outweigh its environmental harm.⁴⁹ An Agency's determination that a project's benefits

⁴⁸ DEIR, VI-1-3.

⁴⁹ CEQA Guidelines, § 15043.

outweigh its significant, unavoidable impacts “lies at the core of the lead agency’s discretionary responsibility under CEQA.”⁵⁰

In adopting a statement of overriding considerations, the City must set forth the reason for its action, pointing to supporting substantial evidence in the administrative record.⁵¹ This requirement reflects the policy that public agencies must weigh a project’s benefits against its unavoidable environmental impacts, and may find the adverse impacts acceptable only if the benefits outweigh the impacts.⁵² Importantly, a statement of overriding considerations is legally inadequate if it fails to accurately characterize the relative harms and benefits of a project.⁵³

Here, in order to approve the Project, the City must find that the Project’s significant, unavoidable impacts are outweighed by the Project’s benefits to the community. CEQA specifically references employment opportunities for highly trained workers as a factor to be considered in making the determination of overriding benefits.⁵⁴ There is no substantial evidence in the record showing that the Project’s significant, unavoidable impacts are outweighed by benefits to the community. For example, the Applicant has not made any commitments to employ graduates of state approved apprenticeship programs or taken other steps to ensure employment of highly trained and skilled craft workers on Project construction.

This issue was raised in previous comments to the DEIR.⁵⁵ The City responded in the FEIR, stating that the comment “does not raise issues,” that the City has “complied with and will continue to comply with Public Resources Code Section 21081,” and that “there is no requirement to use union labor in order to adopt a statement of overriding considerations.”⁵⁶

The City’s response is insufficient, as it does nothing to address the actual concerns raised on this issue. The City’s denial of issues being raised is bears no weight when it does not even attempt to explain this denial. Similarly, the City offers no evidence supporting its claim that it complied with PRC § 21081. Finally, even assuming that the City is correct regarding the lack of requirements to use union labor, the City’s response does not demonstrate that the City considered employment opportunities for highly trained workers as a factor in making the determination of overriding benefits. Therefore, despite the City’s responses to this issue, the City would not fulfill its obligations under CEQA if it adopted a statement of overriding considerations and approved the project.

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⁵⁰ *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.

⁵¹ Pub. Resources Code, § 21081, subd. (b); CEQA Guidelines, § 15093, subds. (a) and (b); *Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 357.

⁵² Pub. Resources Code, § 21081(b); CEQA Guidelines, § 15093, subds. (a) and (b).

⁵³ *Woodward Park Homeowners Association v. City of Fresno* (2007) 150 Cal.App.4th 683, 717.

⁵⁴ Pub. Resources Code, § 21081, subds. (a)(3) and (b).

⁵⁵ FEIR, Appendix FEIR-1

⁵⁶ FEIR Section II, page II-39.

March 12, 2025

Comment on the DEIR and FEIR for the New Beatrice Hotel Project

City of Palm Springs

Page 12 of 12

Sincerely,

Mitchell E. Thielemann

Mitchell E. Thielemann
LOZEAU DRURY LLP



WI #25-002.xx

March 11, 2025

Mitchell E. Thielemann
Lozeau | Drury LLP
1039 Harrison Street, Suite 150
Oakland, CA 94612

EXHIBIT A

**SUBJECT: New Beatrice West Project
Los Angeles, CA
Review and Comment on Noise Study**

Dear Mr. Thielemann

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

New Beatrice West Project

Draft Environmental Impact Report, January 2024 (DEIR)

Appendix I Noise Calculation Worksheets (DEIR App. I)

Final Environmental Impact Report, February 2025 (FEIR)

Appendix FEIR-2 Supplemental Noise Worksheets (FEIR App. 2)

The Proposed New Beatrice West Project (Project) would result in the demolition of an existing office building and two accessory buildings, the retention of an existing office building, and the construction of a new eight-story office building with up to 196,100 square feet of office space and 3,400 square feet of ground floor commercial space. The new building would include three above ground and two subterranean levels of parking. The site is surrounded by commercial uses, including a recording studio to the west, residences to the south, and a recording studio and additional residences to the east, and non-sensitive commercial uses to the north.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise¹

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as cognitive decline, increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

¹ More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (<https://iris.who.int/handle/10665/66217>)

Construction Mitigation is Unrealistic and Does Not Affect All Receivers

The DEIR and FEIR make unrealistic claims about the reduction achieved by Mitigation Measure NOI-MM-1 [FEIR pg. III-4]. NOI-MM-1 states that “a temporary sound barrier shall be designed to provide a minimum of 15-dB noise reduction at the ground level” at R1 (the residences across Beatrice Street). A solid permanent barrier at the parameter of the site could provide 15 dB of reduction, depending on site geometry and barrier construction. However, a temporary sound barrier or heavy vinyl noise curtain typically used for construction sites would achieve 5 to 10 dB reduction, depending on the material and any gaps between panels. This is acknowledged by the FEIR itself in the third bullet point of NOI-MM-1 and is consistent with Appendix A in the Federal Highway Administration Roadway Construction Noise Model User’s Guide containing best practices for calculating estimated shielding,² which is the methodology adopted by the Project.

Further, NOI-MM-1 only applies to ground floor residences and does not address mitigation for upper floors. A 10-foot-high barrier (typical for construction sites) would only block line of sight for upper floor residences if the construction equipment was right up against it. As soon as equipment moves more than 10 feet away from the perimeter, upper floors will not get shielding. The calculations presented in Appendix I of the DEIR show most of the construction equipment was assumed to be located beyond this distance [DEIR App. I pg. 31].

The DEIR shows that predicated construction noise levels exceed adopted thresholds by up to 22.9 dB at R1 [DEIR pg. IV.I-35] and acknowledges this constitutes a significant impact. The proposed mitigation in NOI-MM-1 overestimates the reduction achievable by a temporary sound barrier and still does not reduce levels below Project threshold. The FEIR should be updated to reflect a realistic barrier reduction and call for additional measures, such as source mitigation like enclosures, temporary shielding around stationary equipment, and jackhammer jackets; window coverings on the receiver side; and a noise monitoring program during construction.

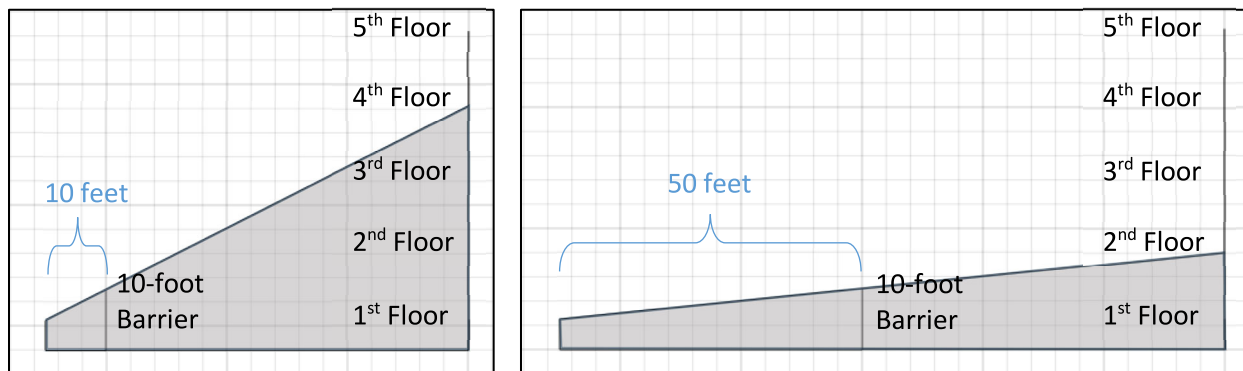


Figure 1 Line-of-Sight Diagram for 10-foot Barrier for Equipment 10 ft. and 50 ft. Away

² https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

Operational Noise Analysis Contains Errors

The DEIR operational noise analysis contains multiple errors and fails to identify potentially significant noise impacts. Mechanical noise from rooftop equipment was modeled using SoundPLAN software [DEIR pg. IV.I-31]. The DEIR does not have a figure showing the layout and results of this model. Appendix I shows reference sound power levels used in the SoundPLAN model [DEIR App. I pg. 117] and indicates that the modeled results of predicted mechanical noise levels are at the first floor residences [pg. 118]. The predictions do not include levels on the upper floors of R1 residences, which would be closer to the rooftop equipment.

Table IV.I-13 of the DEIR shows estimated noise levels from mechanical equipment of 37.1 dBA at residences across Beatrice Street (R1). Based on the reference data for the rooftop equipment provided in Appendix I, we would expect levels from just one unit near the edge of the roof to be closer to 61-65 dBA (depending on the floor), using the conversion of sound power to sound pressure equation below. This would exceed the threshold of significance criteria of 55.8 dBA presented in the DEIR for operational noise.

$$Lp = Lw - \left| 10 \cdot \log \left(\frac{Q}{4\pi \cdot r^2} \right) \right|$$

where:

$Lw = 100$ dBA (per Appendix I)

$Q = 2$ (directivity factor for a half-sphere)

$r = 24$ m (approximate diagonal distance from the roof to nearest residence)

$$Lp = 100 - \left| 10 \cdot \log \left(\frac{2}{4\pi \cdot 23^2} \right) \right| = 65 \text{ dBA}$$

The DIER states that per NOI-PDF-2 “all outdoor mounted mechanical equipment will be screened from off-side noise-sensitive receptors” [DEIR pg. IV.I-32], but does not provide details on the reduction expected from this feature. It’s not clear if the predictions shown in Table IV.I-13 include shielding from such a screen.

The FEIR should provide a figure showing the SoundPLAN model used for the analysis, correct errors in the predictions including evaluating levels closer to the rooftop noise sources, provide information on measure NOI-PDF-2, and show that mechanical noise levels are not expected to exceed operational noise thresholds with implemented shielding.

Incomplete Construction Vibration Mitigation Discussion

The DEIR acknowledges that “vibration impacts associated with Project construction with respect to human annoyance would be potentially significant” [DEIR pg. IV.I-55]. The report considers wave barriers as the only potential mitigation for construction vibration and claims that they are considered infeasible. Therefore, the report concludes, the Project’s vibration impacts with respect to human annoyance are significant and unavoidable [DEIR pg. IV.I-56]. The FEIR should be updated to consider other vibration mitigation measures, such as buffer distances for certain equipment, or coordination with the recording studio hours of operation to avoid impacting studio operations.

Conclusion

The DEIR and FEIR updates do not sufficiently address mitigation for potentially significant construction noise and vibration impacts. The DEIR operational analysis contains errors and fails to identify potentially significant impacts.

Please feel free to contact me with any questions on this information.

A handwritten signature in black ink, appearing to read "Ani Toncheva", with a long horizontal flourish extending to the right.

Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG



ANI TONCHEVA

Senior Consultant

Since joining the firm in 2011, Ani has conducted analyses for transit systems, vibration-sensitive research facilities, public infrastructure, construction, and other environmental noise. She has contributed to literature reviews, including research on current practices of historical preservation. She has extensive experience working on construction projects in New York City and is well-versed in local noise codes.

Education

- B.A., Physics; Bard College, New York

Professional Associations

- *Member*, National Council of Acoustical Consultants (NCAC)
- *Member*, Acoustical Society of America (ASA)
- *Board Member*, Transportation Research Forum (TRF), NY Chapter and International Board

Research Paper

- NCHRP 25-25, *Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects*
-

Project Experience

ARCHITECTURAL

180 Jones Street Mixed-Use Development, San Francisco, CA

Prepared a CCR Title 24 Noise Study Report for a new mixed-use building. The project included 70 residential units and on-site community facilities.

1801 Haight Street Mixed-Use Development, San Francisco, CA

Prepared a CCR Title 24 Noise Study Report for a new low-rise mixed-use building.

Analog (ArtX) Hotel, Palo Alto, CA

Prepared preliminary basis of design guidelines for a new five-story boutique hotel in a residential area. Work included evaluation of exterior noise from a project that may affect guest areas and interior noise and vibration isolation measures.

First Congregational Church of Berkeley Pilgrim Hall Replacement, Berkeley, CA

Responsible for developing 3D computer model of a new hall to prepare a basis of design guidelines for room acoustics and noise control and assist in the development of acoustic specifications for various disciplines.

Gansevoort Cooperative, New York, NY

Conducted measurements inside several units in a mixed-use building to characterize commercial noise levels and recommend mitigation measures.

Hollis Life Science, Emeryville, CA

Conducted a drawing review regarding the new air handler units, exhaust fans, and related noise, and vibration-generating equipment, to recommend base isolation requirements to control vibration within the building, and to assess noise control requirements.

Sunnydale Block 3A & 3B Mixed-Use Residential Development, San Francisco, CA

Prepared a CCR Title 24 Noise Study Report for two, mixed-use, 5-story buildings. The project was part of the complete rebuild of the existing Sunnydale-Velasco Housing Authority site through the HOPE SF Program.

CONSTRUCTION

Columbia University Medical Center Medical and Graduate Education Building, New York, NY

Conducted baseline noise survey and performed attended noise measurements during preliminary construction work. Installed long-term noise monitors and assisted with the implementation of a sophisticated remote noise monitoring system for a six-month construction phase including building demolition.

East Side Coastal Resiliency Noise Monitoring Plan, New York, NY

Prepared noise monitoring plan for residences located near planned construction activities involving the use of pile driving methods for the installation of a flood protection system.

Fulton Municipal Manufactured Gas Plant Environment Remediation, New York, NY

Conducted a baseline noise and vibration study in the vicinity of planned Gowanus Canal remediation for the former MGP site, including long-term unattended and short-term noise and vibration measurements.

Former Citizens Gas Works MGP Site Pilot Test Program, New York, NY

Collected long-term baseline noise and vibration data. Conducted short-term attended noise and vibration measurements at during pile operations. Vibration measurements were conducted at nearby residence and at the MTA NYCT structure near the project site.

Gowanus Canal Remediation, New York, NY

Conducted baseline noise measurements and ongoing long-term noise and vibration monitoring in vicinity of Gowanus Canal Superfund Site 4th street turning basin dredging and capping pilot study.

Hudson Yards Tower C Foundations and Utilities, New York, NY

Conducted a baseline noise survey prior to construction work including a combination of long-term unattended and short-term attended noise measurements.

PANYNJ Lincoln Tunnel Helix Rehabilitation, NJ

Assisted in developing construction noise control and mitigation plan and implementing a remote long-term noise monitoring program at three locations. Performed noise measurements of nighttime construction activities in vicinity of sensitive receptors.

MSK 74th Street, New York, NY

Conducted baseline noise survey, assisted in developing construction noise control and mitigation plan, and implemented a long-term noise monitoring program at two locations. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits and coordinated interior short-term measurements in nearby residential buildings.

NYMTA No. 7 Line Subway Extension, New York, NY

Performed long-term noise monitoring for the ventilation shaft construction site.

NYMTA No. 7 Line Subway Extension Site L Ventilation Facility Construction, New York, NY

The project involved the mining and lining of two shafts and the construction of a 2-story ventilation building at Site L near Dyer Avenue on West 41st Street. Assisted with long-term noise compliance monitoring and preparation of monthly noise monitoring reports.

NYMTA ESA/LIRR Grand Central Terminal Fit-Out, New York, NY

Prepared the Contractor's noise and vibration control plan updates for fit-out work conducted underground at the Grand Central Terminal Suburban Level. Performed field measurements of construction equipment noise and prepared noise emission certificates.

San Francisco Planning Department, Alameda Street Wet Weather Tunnel and Folsom Area Sewer Improvement, San Francisco, CA

Project Manager in charge of noise and vibration analysis for Folsom Area stormwater infrastructure improvements, as part of the San Francisco Public Utilities Commission's (SFPUC) flood resilience efforts under the Sewer System Improvement Program. Work included baseline noise survey, noise and vibration predictions, evaluation of applicable criteria and recommendations for noise and vibration control measures.

SLAC National Accelerator Laboratory, San Mateo, CA

Generated a site-specific vibration propagation model and analyzed the potential for vibration impacts to ongoing scientific experiments during the construction of a new building on the SLAC campus. Testing included measuring transfer mobilities, determining the vibration response of particle beamline equipment, and vibration generated by construction equipment.

World Trade Center Vehicle Security Center, New York, NY

Conducted baseline noise surveys, assisted in developing construction noise control plans, and implementing a remote long-term noise monitoring program at six locations around the perimeter of the site at noise sensitive receptors. Provided weekly reports of monitoring data with on-going assessments of Contractor compliance with project noise limits.

ENVIRONMENTAL

CEQA Peer Reviews, CA

Peer review of noise and vibration analyses prepared per CEQA. These projects have primarily focused on the construction and operation of new facilities including residential in-fill, office and mixed-use projects, and educational buildings.

Millennium Bulk Terminal, Longview, WA

Prepared noise analysis for the project's NEPA and SEPA environmental impact statements. Tasks included future rail traffic modeling using CadnaA and preparation of noise contours using GIS.

Peninsula Humane Society & SPCA Haskin Hill Sanctuary, Loma Mar, CA

Prepared an environmental study for a planned animal sanctuary in Loma Mar. Work included baseline noise measurements, predictions of expected noise from the completed project and a review of compliance with local regulations and CEQA.

HIGHWAY AND OTHER TRAFFIC STUDIES

Alameda CTC, I-880 Interchange Improvements Project (Whipple Road-Industrial Southwest and Industrial Parkway West), Hayward, CA

Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

Alameda CTC, I-80/Ashby Avenue Interchange Improvements, Berkeley, CA

Project Manager for a traffic noise study. The work included noise modelling and impact assessments consistent with FHWA and Caltrans procedures and methodology for multiple project alternatives.

Riverstone Apartments, Seattle, WA

This street will serve the future Star Lake Station currently under construction for Sound Transit's Federal Way Link Extension. As part of the Federal Way project, improvements to the street include the addition of a turning lane and traffic light (currently in place) at the end of a roadway. The study provided an independent assessment of the potential for traffic noise impacts on the residents of Riverstone based on FTA project noise criterion.

Junipero Serra Roadway Noise, South San Francisco, CA

Noise analysis of existing traffic noise and potential benefits of noise abatement measures such as sound walls and quieter pavement.

LEGAL

50 Pine Street Condominiums, New York, NY

The project involved evaluating noise at residential dwelling units for NYC noise code compliance. Measured noise levels from mechanical equipment in an enclosed courtyard.

Uptown Newport, Newport Beach, CA

Evaluation of noise levels due to mechanical equipment at adjacent property. Assisted heavily with data analysis from long-term monitoring and data presentation for the legal team.

RAIL TRANSIT

BART Berryessa Station Transit Noise Impact and Mitigation, San Jose, CA

Assisted with noise predictions and barrier design recommendations. Project is a 10.2-mile extension of a heavy rail transit system in the San Francisco Bay Area, and this is one of the stations along the new route.

BART to Silicon Valley Phase II

Acoustics, noise, and vibration discipline lead for a large single-bore tunnel project through downtown San Jose. The largest single public infrastructure project ever constructed in Santa Clara County, this phase of VTA's BART to Silicon Valley project will extend BART service six miles from the Berryessa Transit Center into San Jose and ending in the City of Santa Clara. Responsibilities include station acoustics and speech intelligibility design and evaluation of operational train noise and vibration.

California High-Speed Rail Fresno-Merced Corridor, Fresno-Merced, CA

Lead noise analyst for the project's environmental impact assessment. Tasks included characterizing the existing noise conditions and assessing noise impacts from transit operations and construction-related activities.

Caltrain Peninsula Corridor Electrification, San Francisco Peninsula, CA

Analysed previous noise study. Assisted in developing current noise prediction model and GIS model for vibration. Helped prepare FEIR. This project included extensive ambient noise and vibration measurement surveys; the development of noise and vibration prediction models for HST operations; prediction of wayside noise and vibration levels for HST operations; evaluation of environmental noise and vibration impacts using FRA procedures and criteria and determining the need for and type of noise mitigation.

LA Metro Purple Line Section 3 Design-Build, Los Angeles, CA

Responsible for developing detailed 3D computer models for two transit stations using EASE software.

Maryland Purple Line Station Acoustics, Baltimore, MD

Responsible for developing detailed 3D computer models for three transit stations using EASE software.

Massachusetts Bay Transportation Authority (MBTA) Green Line Extension (GLX), Boston, MA

Lead analyst on noise predictions and barrier design. Work included planning field measurements, conducting data analysis, predicting noise impacts from project operations, and making barrier design recommendations.

RTD Eagle P3 Northwest Corridor Noise and Impacts, Denver, CO

Assisted with data analysis and helped prepare the final technical report. The project consists of 33 miles of EMU Commuter Rail connecting downtown Denver Union Station to the Denver International Airport. This project also includes a Commuter Rail Maintenance Facility with a capacity to store and service 100 EMU.

Santa Clara VTA, Vasona LRT Corridor Tire-Derived Aggregate (TDA) Underlayment Performance Testing, San Jose, CA

Project Manager in charge of planning a series of tests to document the performance of TDA ballast underlayment over time, as required by FTA. Previous tests were done in 2006, 2006, and 2009. Work will include documenting vibration isolation performance, rail strain, and rail deflection.

Sound Transit Northgate Link Vibration Attenuation Estimates, Seattle, WA

Provided general field support for all elements of testing. Tasks included moving equipment into/out of the tunnel, deploying sensors on campus, and attending to wireless antennas during testing. To derive the relationship between vibration measured in the Northgate link tunnel and building vibration at research facilities on the University of Washington campus, field tests were conducted using a shaker in the tunnel while simultaneously measuring the vibration response in UW buildings using a wireless data collection system.

Toronto Transit Commission (TTC) Eglinton Crosstown LRT, Toronto, ON, Canada

Reviewed historic reports for relevant data, assisted with GIS model and preparation for noise and vibration measurements. The TTC is planning to construct the Eglinton Tunnel subway line and needed to address what mitigation could be necessary to reduce ground-borne noise and vibration impacts. The proposed study would determine the most likely range of ground-borne noise and vibration levels in residences and other sensitive buildings along the planned alignment.

Toronto Transit Commission (TTC) Scarborough Subway Extension, Toronto, ON, Canada

Conducted force density level (FDL) measurements and analysis for the Toronto Rocket vehicles on TTC standard double ties on the Toronto-York Spadina Subway Extension. Predicted ground-borne noise and vibration levels at sensitive receptors along the Scarborough extension and prepared project memos.

Transbay Program Downtown Rail Extension (DTX), San Francisco, CA

Project Manager in charge of preliminary engineering noise and vibration analysis. The project consists of a 2.4-mile at-grade and tunnel alignment starting at the existing Caltrain terminal station and railyard and ending at the Salesforce Transit Center. Provided updated noise and vibration predictions for the project based on current design and abasement measure design recommendations based on new field testing and updated analysis.

Washington Metropolitan Area Transit Authority (WMATA) On-Call Services, Washington, DC

Conducted extensive field measurements inside homes and along tunnels to document ground-borne noise and vibration due to WMATA Green Line trains. Performed rail roughness measurements along sections of track within the study area. Analyzed recordings to determine train passby levels and plotted data to compare results for the different vehicle fleets and compare to applicable criteria.

Washington Metropolitan Area Transit Authority (WMATA) Vehicles Out-of-Round Wheel Study, DC

Assisted with modal analysis on nine wheelsets of WMATA vehicles.

STRUCTURES

101 Mass Avenue (aka Parcel 12), Boston, MA

Responsible for developing a Finite Element model of mixed-use development, built over MBTA commuter railway tracks, and spanning I-90 to analyse predicted building response to ground-borne vibration.

206th Street Theater Vibration Study, New York, NY

Analyzed ground vibration measurements at the site of the planned theater located near NYCT rail lines.

Centene Corporation Theater, Clayton, MO

Conducted vibration measurements on the site to define and identify frequency and levels of vibration. The purpose of the study was to assess possible intrusion from trains and other sources into the proposed auditorium.

David Geffen Hall Renovation, Lincoln Center Development, New York, NY

Conducted vibration measurements on multiple levels of the existing David Geffen Hall structure to measure ground-borne vibration from subway trains. Performed background noise measurements inside the hall to determine ground-borne noise from subway trains.

Pace University Performing Arts, New York, NY

Conducted a vibration feasibility study for the proposed fit-out in an existing mixed-use commercial/residential building to accommodate the university's dance program. The analysis included vibration measurements of the existing space to characterize the floor response and determine vibration transmission between the dance spaces and residences on the upper floors. Estimated dance-induced vibration and provided recommendations on possible structural modifications to reduce vibration.

The Perelman Performing Arts Center at World Trade Center, New York, NY

Conducted structure-borne vibration measurements as part of building vibration isolation design for future flexible space performing arts center. Conducted quality control field visits during isolation pad installation.



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Date: March 11, 2025

To: Mitchell Thielemann
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, California 94612

EXHIBIT B

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: New Beatrice West Project – Los Angeles, CA.
(IEE File Reference: P-4862)

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/m³, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m³, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m³. The median indoor formaldehyde concentration was 36 µg/m³, and ranged from 4.8 to 136 µg/m³, which corresponds to a median exceedance of the 2 µg/m³ 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/m³, 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/m³ to 28% for the Acute REL of 55 µg/m³.

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 $22.4 \mu\text{g}/\text{m}^3$ (18.2 ppb) as compared to a median of $36 \mu\text{g}/\text{m}^3$ 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 $24.1 \mu\text{g}/\text{m}^3$, which is 33% lower than the $36 \mu\text{g}/\text{m}^3$ 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 New Beatrice West Project, Los Angeles, CA, the buildings consist of commercial spaces.

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 $24.1 \mu\text{g}/\text{m}^3$ (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 $161 \mu\text{g}/\text{day}$.

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 $70.9 \mu\text{g}/\text{day}$.

This is 1.77 times the NSRL (OEHHA, 2017a) of $40 \mu\text{g}/\text{day}$ 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 $3.7 \mu\text{g}/\text{m}^3$, (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 460 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 that 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., m² of material/m² floor area, units of furnishings/m² 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/m²-h) and the area (m²) 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., $\mu\text{g}/\text{m}^2\text{-h}$) 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 $31 \mu\text{g}/\text{m}^2\text{-h}$, but not the actual measured specific emission rate, which may be 3, 18, or $30 \mu\text{g}/\text{m}^2\text{-h}$. 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. $\mu\text{g/h}$) 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 ($\mu\text{g/m}^3$) from Equation 1 by dividing the total formaldehyde emission rates (i.e. $\mu\text{g/h}$) 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 ($\mu\text{g/m}^3$)

E_{total} = total formaldehyde emission rate ($\mu\text{g/h}$) 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 New Beatrice West Project, Los Angeles, CA is close to roads with moderate to high traffic (e.g., Beatrice Street, Grosvenor Boulevard, Jandy Place, I-90, etc.). Thus, the Project is located in a sound impacted area.

According to the Draft Environmental Impact Report – New Beatrice West Project, Los Angeles, CA. (Eyestone, 2024) there have only been two 15-minute measurements and one 24-hour measurement of the ambient sound levels which ranged from 59.3 to 61.2 dBA CNEL (Table IV.1-7). In addition, there were some “calculated” ambient future + Project traffic noise levels reported in IV.1-18 which ranged from 62.2 to 73.2 dBA CNEL.

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}. The New Beatrice West Project, Los Angeles, CA 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 460 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 µg/m³, or the National 24-hour average exceedence concentration of 35 µg/m³, 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/ft² 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 $22.4 \mu\text{g}/\text{m}^3$ (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 ft²), 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,

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m³/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 ft² (0.7% of the floor area), or

Particle Board – 30 ft² (1.3% of the floor area), or

Hardwood Plywood – 54 ft² (2.4% of the floor area), or

Thin MDF – 46 ft² (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 that 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.

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Expert Witness Services

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Work Experience

Mr. Offermann PE, CIH, has 36 years experience as an IAQ researcher, technical author, and workshop instructor. He is president of Indoor Environmental Engineering, a San Francisco based IAQ R&D consulting firm. As president of Indoor Environmental Engineering, Mr. Offermann directs an interdisciplinary team of environmental scientists, chemists, and mechanical engineers in indoor air quality building investigations. Under Mr. Offermann's supervision, IEE has developed both pro-active and reactive IAQ measurement methods and diagnostic protocols. He has supervised over 2,000 IAQ investigations in commercial, residential, and institutional buildings and conducted numerous forensic investigations related to IAQ.

Litigation Experience

Mr. Offermann has been qualified numerous times in court as an expert in the field of indoor air quality and ventilation for both plaintiffs and defendants. He has been deposed over 150 times in cases involving indoor air quality/ventilation issues in commercial, residential, and institutional buildings involving construction defects, and/or operation and maintenance problems. Examples of indoor air quality cases he has worked on are alleged personal injury and/or property damages from mold and bacterial contamination/moisture intrusion, building renovation activities, insufficient outdoor air ventilation, off gassing of volatile organic compounds from building materials and coatings, malfunctioning gas heaters and carbon monoxide poisoning, and applications of pesticides. Mr. Offermann has testified with respect to the scientific admissibility of expert testimony regarding indoor air quality issues via Daubert and Kelly-Frye motions.



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CLICKY ANALYTICS CLICKY ANALYTICS

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Education

M.S. Mechanical Engineering (1985)
Stanford University, Stanford, CA.

Graduate Studies in Air Pollution Monitoring and Control (1980)
University of California, Berkeley, CA.

B.S. in Mechanical Engineering (1976)
Rensselaer Polytechnic Institute, Troy, N.Y.

Professional Experience

President: Indoor Environmental Engineering, San Francisco, CA. December, 1981 - present.

Direct team of environmental scientists, chemists, and mechanical engineers in conducting State and Federal research regarding indoor air quality instrumentation development, building air quality field studies, ventilation and air cleaning performance measurements, and chemical emission rate testing.

Provide design side input to architects regarding selection of building materials and ventilation system components to ensure a high quality indoor environment.

Direct Indoor Air Quality Consulting Team for the winning design proposal for the new State of Washington Ecology Department building.

Develop a full-scale ventilation test facility for measuring the performance of air diffusers; ASHRAE 129, Air Change Effectiveness, and ASHRAE 113, Air Diffusion Performance Index.

Develop a chemical emission rate testing laboratory for measuring the chemical emissions from building materials, furnishings, and equipment.

Principle Investigator of the California New Homes Study (2005-2007). Measured ventilation and indoor air quality in 108 new single family detached homes in northern and southern California.

Develop and teach IAQ professional development workshops to building owners, managers, hygienists, and engineers.

Air Pollution Engineer: Earth Metrics Inc., Burlingame, CA, October, 1985 to March, 1987.

Responsible for development of an air pollution laboratory including installation a forced choice olfactometer, tracer gas electron capture chromatograph, and associated calibration facilities. Field team leader for studies of fugitive odor emissions from sewage treatment plants, entrainment of fume hood exhausts into computer chip fabrication rooms, and indoor air quality investigations.

Staff Scientist: Building Ventilation and Indoor Air Quality Program, Energy and Environment Division, Lawrence Berkeley Laboratory, Berkeley, CA. January, 1980 to August, 1984.

Deputy project leader for the Control Techniques group; responsible for laboratory and field studies aimed at evaluating the performance of indoor air pollutant control strategies (i.e. ventilation, filtration, precipitation, absorption, adsorption, and source control).

Coordinated field and laboratory studies of air-to-air heat exchangers including evaluation of thermal performance, ventilation efficiency, cross-stream contaminant transfer, and the effects of freezing/defrosting.

Developed an *in situ* test protocol for evaluating the performance of air cleaning systems and introduced the concept of effective cleaning rate (ECR) also known as the Clean Air Delivery Rate (CADR).

Coordinated laboratory studies of portable and ducted air cleaning systems and their effect on indoor concentrations of respirable particles and radon progeny.

Co-designed an automated instrument system for measuring residential ventilation rates and radon concentrations.

Designed hardware and software for a multi-channel automated data acquisition system used to evaluate the performance of air-to-air heat transfer equipment.

Assistant Chief Engineer: Alta Bates Hospital, Berkeley, CA, October, 1979 to January, 1980.

Responsible for energy management projects involving installation of power factor correction capacitors on large inductive electrical devices and installation of steam meters on physical plant steam lines. Member of Local 39, International Union of Operating Engineers.

Manufacturing Engineer: American Precision Industries, Buffalo, NY, October, 1977 to October, 1979.

Responsible for reorganizing the manufacturing procedures regarding production of shell and tube heat exchangers. Designed customized automatic assembly, welding, and testing equipment. Designed a large paint spray booth. Prepared economic studies justifying new equipment purchases. Safety Director.

Project Engineer: Arcata Graphics, Buffalo, N.Y. June, 1976 to October, 1977.

Responsible for the design and installation of a bulk ink storage and distribution system and high speed automatic counting and marking equipment. Also coordinated material handling studies which led to the purchase and installation of new equipment.

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

- Chairman of SPC-145P, Standards Project Committee - Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment (1991-1992)
- Member SPC-129P, Standards Project Committee - Test Method for Ventilation Effectiveness (1986-97)
 - Member of Drafting Committee
- Member Environmental Health Committee (1992-1994, 1997-2001, 2007-2010)
 - Chairman of EHC Research Subcommittee
 - Member of Man Made Mineral Fiber Position Paper Subcommittee
 - Member of the IAQ Position Paper Committee
 - Member of the Legionella Position Paper Committee
 - Member of the Limiting Indoor Mold and Dampness in Buildings Position Paper Committee
- Member SSPC-62, Standing Standards Project Committee - Ventilation for Acceptable Indoor Air Quality (1992 to 2000)
 - Chairman of Source Control and Air Cleaning Subcommittee
- Chairman of TC-4.10, Indoor Environmental Modeling (1988-92)
 - Member of Research Subcommittee
- Chairman of TC-2.3, Gaseous Air Contaminants and Control Equipment (1989-92)
 - Member of Research Subcommittee

American Society for Testing and Materials (ASTM)

- D-22 Sampling and Analysis of Atmospheres
 - Member of Indoor Air Quality Subcommittee
- E-06 Performance of Building Constructions

American Board of Industrial Hygiene (ABIH)

American Conference of Governmental Industrial Hygienists (ACGIH)

- Bioaerosols Committee (2007-2013)

American Industrial Hygiene Association (AIHA)

Cal-OSHA Indoor Air Quality Advisory Committee

International Society of Indoor Air Quality and Climate (ISIAQ)

- Co-Chairman of Task Force on HVAC Hygiene

U. S. Green Building Council (USGBC)

- Member of the IEQ Technical Advisory Group (2007-2009)
- Member of the IAQ Performance Testing Work Group (2010-2012)

Western Construction Consultants (WESTCON)

PROFESSIONAL CREDENTIALS

Licensed Professional Engineer - Mechanical Engineering

Certified Industrial Hygienist - American Board of Industrial Hygienists

SCIENTIFIC MEETINGS AND SYMPOSIA

Biological Contamination, Diagnosis, and Mitigation, Indoor Air'90, Toronto, Canada, August, 1990.

Models for Predicting Air Quality, Indoor Air'90, Toronto, Canada, August, 1990.

Microbes in Building Materials and Systems, Indoor Air '93, Helsinki, Finland, July, 1993.

Microorganisms in Indoor Air Assessment and Evaluation of Health Effects and Probable Causes, Walnut Creek, CA, February 27, 1997.

Controlling Microbial Moisture Problems in Buildings, Walnut Creek, CA, February 27, 1997.

Scientific Advisory Committee, Roomvent 98, 6th International Conference on Air Distribution in Rooms, KTH, Stockholm, Sweden, June 14-17, 1998.

Moisture and Mould, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Ventilation Modeling and Simulation, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Microbial Growth in Materials, Healthy Buildings 2000, Espoo, Finland, August, 2000.

Co-Chair, Bioaerosols X- Exposures in Residences, Indoor Air 2002, Monterey, CA, July 2002.

Healthy Indoor Environments, Anaheim, CA, April 2003.

Chair, Environmental Tobacco Smoke in Multi-Family Homes, Indoor Air 2008, Copenhagen, Denmark, July 2008.

Co-Chair, ISIAQ Task Force Workshop; HVAC Hygiene, Indoor Air 2002, Monterey, CA, July 2002.

Chair, ETS in Multi-Family Housing: Exposures, Controls, and Legalities Forum, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

Chair, Energy Conservation and IAQ in Residences Workshop, Indoor Air 2011, Austin, TX, June 6, 2011.

Chair, Electronic Cigarettes: Chemical Emissions and Exposures Colloquium, Indoor Air 2016, Ghent, Belgium, July 4, 2016.

SPECIAL CONSULTATION

Provide consultation to the American Home Appliance Manufacturers on the development of a standard for testing portable air cleaners, AHAM Standard AC-1.

Served as an expert witness and special consultant for the U.S. Federal Trade Commission regarding the performance claims found in advertisements of portable air cleaners and residential furnace filters.

Conducted a forensic investigation for a San Mateo, CA pro se defendant, regarding an alleged homicide where the victim was kidnapped in a steamer trunk. Determined the air exchange rate in the steamer trunk and how long the person could survive.

Conducted *in situ* measurement of human exposure to toluene fumes released during nailpolish application for a plaintiffs attorney pursuing a California Proposition 65 product labeling case. June, 1993.

Conducted a forensic *in situ* investigation for the Butte County, CA Sheriff's Department of the emissions of a portable heater used in the bedroom of two twin one year old girls who suffered simultaneous crib death.

Consult with OSHA on the 1995 proposed new regulation regarding indoor air quality and environmental tobacco smoke.

Consult with EPA on the proposed Building Alliance program and with OSHA on the proposed new OSHA IAQ regulation.

Johnson Controls Audit/Certification Expert Review; Milwaukee, WI. May 28-29, 1997.

Winner of the nationally published 1999 Request for Proposals by the State of Washington to conduct a comprehensive indoor air quality investigation of the Washington State Department of Ecology building in Lacey, WA.

Selected by the State of California Attorney General's Office in August, 2000 to conduct a comprehensive indoor air quality investigation of the Tulare County Court House.

Lawrence Berkeley Laboratory IAQ Experts Workshop: "Cause and Prevention of Sick Building Problems in Offices: The Experience of Indoor Environmental Quality Investigators", Berkeley, California, May 26-27, 2004.

Provide consultation and chemical emission rate testing to the State of California Attorney General's Office in 2013-2015 regarding the chemical emissions from e-cigarettes.

PEER-REVIEWED PUBLICATIONS :

F.J.Offermann, C.D.Hollowell, and G.D.Roseme, "Low-Infiltration Housing in Rochester, New York: A Study of Air Exchange Rates and Indoor Air Quality," *Environment International*, 8, pp. 435-445, 1982.

W.W.Nazaroff, F.J.Offermann, and A.W.Robb, "Automated System for Measuring Air Exchange Rate and Radon Concentration in Houses," *Health Physics*, 45, pp. 525-537, 1983.

F.J.Offermann, W.J.Fisk, D.T.Grimsrud, B.Pedersen, and K.L.Revzan, "Ventilation Efficiencies of Wall- or Window-Mounted Residential Air-to-Air Heat Exchangers," *ASHRAE Annual Transactions*, 89-2B, pp 507-527, 1983.

W.J.Fisk, K.M.Archer, R.E Chant, D. Hekmat, F.J.Offermann, and B.Pedersen, "Onset of Freezing in Residential Air-to-Air Heat Exchangers," *ASHRAE Annual Transactions*, 91-1B, 1984.

W.J.Fisk, K.M.Archer, R.E Chant, D. Hekmat, F.J.Offermann, and B.Pedersen, "Performance of Residential Air-to-Air Heat Exchangers During Operation with Freezing and Periodic Defrosts," *ASHRAE Annual Transactions*, 91-1B, 1984.

F.J.Offermann, R.G.Sextro, W.J.Fisk, D.T.Grimsrud, W.W.Nazaroff, A.V.Nero, and K.L.Revzan, "Control of Respirable Particles with Portable Air Cleaners," *Atmospheric Environment*, Vol. 19, pp.1761-1771, 1985.

R.G.Sextro, F.J.Offermann, W.W.Nazaroff, A.V.Nero, K.L.Revzan, and J.Yater, "Evaluation of Indoor Control Devices and Their Effects on Radon Progeny Concentrations," *Atmospheric Environment*, *12*, pp. 429-438, 1986.

W.J. Fisk, R.K.Spencer, F.J.Offermann, R.K.Spencer, B.Pedersen, R.Sextro, "Indoor Air Quality Control Techniques," *Noyes Data Corporation*, Park Ridge, New Jersey, (1987).

F.J.Offermann, "Ventilation Effectiveness and ADPI Measurements of a Forced Air Heating System," *ASHRAE Transactions* , Volume 94, Part 1, pp 694-704, 1988.

F.J.Offermann and D. Int-Hout "Ventilation Effectiveness Measurements of Three Supply/Return Air Configurations," *Environment International* , Volume 15, pp 585-592 1989.

F.J. Offermann, S.A. Loiselle, M.C. Quinlan, and M.S. Rogers, "A Study of Diesel Fume Entrainment in an Office Building," *IAQ '89*, The Human Equation: Health and Comfort, pp 179-183, ASHRAE, Atlanta, GA, 1989.

R.G.Sextro and F.J.Offermann, "Reduction of Residential Indoor Particle and Radon Progeny Concentrations with Ducted Air Cleaning Systems," submitted to *Indoor Air*, 1990.

S.A.Loiselle, A.T.Hodgson, and F.J.Offermann, "Development of An Indoor Air Sampler for Polycyclic Aromatic Compounds", *Indoor Air* , Vol 2, pp 191-210, 1991.

F.J.Offermann, S.A.Loiselle, A.T.Hodgson, L.A. Gundel, and J.M. Daisey, "A Pilot Study to Measure Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air* , Vol 4, pp 497-512, 1991.

F.J. Offermann, S. A. Loiselle, R.G. Sextro, "Performance Comparisons of Six Different Air Cleaners Installed in a Residential Forced Air Ventilation System," *IAQ'91*, Healthy Buildings, pp 342-350, ASHRAE, Atlanta, GA (1991).

F.J. Offermann, J. Daisey, A. Hodgson, L. Gundell, and S. Loiselle, "Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air*, Vol 4, pp 497-512 (1992).

F.J. Offermann, S. A. Loiselle, R.G. Sextro, "Performance of Air Cleaners Installed in a Residential Forced Air System," *ASHRAE Journal*, pp 51-57, July, 1992.

F.J. Offermann and S. A. Loiselle, "Performance of an Air-Cleaning System in an Archival Book Storage Facility," *IAQ'92*, ASHRAE, Atlanta, GA, 1992.

S.B. Hayward, K.S. Liu, L.E. Alevantis, K. Shah, S. Loiselle, F.J. Offermann, Y.L. Chang, L. Webber, "Effectiveness of Ventilation and Other Controls in Reducing Exposure to ETS in Office Buildings," *Indoor Air '93*, Helsinki, Finland, July 4-8, 1993.

F.J. Offermann, S. A. Loiselle, G. Ander, H. Lau, "Indoor Contaminant Emission Rates Before and After a Building Bake-out," *IAQ'93*, Operating and Maintaining Buildings for Health, Comfort, and Productivity, pp 157-163, ASHRAE, Atlanta, GA, 1993.

L.E. Alevantis, Hayward, S.B., Shah, S.B., Loiselle, S., and Offermann, F.J. "Tracer Gas Techniques for Determination of the Effectiveness of Pollutant Removal From Local Sources," *IAQ '93*, Operating and Maintaining Buildings for Health, Comfort, and Productivity, pp 119-129, ASHRAE, Atlanta, GA, 1993.

L.E. Alevantis, Liu, L.E., Hayward, S.B., Offermann, F.J., Shah, S.B., Leiserson, K. Tsao, E., and Huang, Y., "Effectiveness of Ventilation in 23 Designated Smoking Areas in California Buildings," *IAQ '94*, Engineering Indoor Environments, pp 167-181, ASHRAE, Atlanta, GA, 1994.

L.E. Alevantis, Offermann, F.J., Loiselle, S., and Macher, J.M., "Pressure and Ventilation Requirements of Hospital Isolation Rooms for Tuberculosis (TB) Patients: Existing Guidelines in the United States and a Method for Measuring Room Leakage", Ventilation and Indoor air quality in Hospitals, M. Maroni, editor, Kluwer Academic publishers, Netherlands, 1996.

F.J. Offermann, M. A. Waz, A.T. Hodgson, and H.M. Ammann, "Chemical Emissions from a Hospital Operating Room Air Filter," *IAQ'96*, Paths to Better Building Environments, pp 95-99, ASHRAE, Atlanta, GA, 1996.

F.J. Offermann, "Professional Malpractice and the Sick Building Investigator," *IAQ'96*, Paths to Better Building Environments, pp 132-136, ASHRAE, Atlanta, GA, 1996.

F.J. Offermann, "Standard Method of Measuring Air Change Effectiveness," *Indoor Air*, Vol 1, pp.206-211, 1999.

F. J. Offermann, A. T. Hodgson, and J. P. Robertson, "Contaminant Emission Rates from PVC Backed Carpet Tiles on Damp Concrete", Healthy Buildings 2000, Espoo, Finland, August 2000.

K.S. Liu, L.E. Alevantis, and F.J. Offermann, "A Survey of Environmental Tobacco Smoke Controls in California Office Buildings", *Indoor Air*, Vol 11, pp. 26-34, 2001.

F.J. Offermann, R. Colfer, P. Radzinski, and J. Robertson, "Exposure to Environmental Tobacco Smoke in an Automobile", Indoor Air 2002, Monterey, California, July 2002.

F. J. Offermann, J.P. Robertson, and T. Webster, "The Impact of Tracer Gas Mixing on Airflow Rate Measurements in Large Commercial Fan Systems", Indoor Air 2002, Monterey, California, July 2002.

M. J. Mendell, T. Brennan, L. Hathon, J.D. Odom, F.J. Offermann, B.H. Turk, K.M. Wallingford, R.C. Diamond, W.J. Fisk, "Causes and prevention of Symptom Complaints

in Office Buildings: Distilling the Experience of Indoor Environmental Investigators”, submitted to Indoor Air 2005, Beijing, China, September 4-9, 2005.

F.J. Offermann, “Ventilation and IAQ in New Homes With and Without Mechanical Outdoor Air Systems”, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

F.J. Offermann, “ASHRAE 62.2 Intermittent Residential Ventilation: What’s It Good For, Intermittently Poor IAQ”, IAQVEC 2010, Syracuse, CA, April 21, 2010.

F.J. Offermann and A.T. Hodgson, “Emission Rates of Volatile Organic Compounds in New Homes”, Indoor Air 2011, Austin, TX, June, 2011.

P. Jenkins, R. Johnson, T. Phillips, and F. Offermann, “Chemical Concentrations in New California Homes and Garages”, Indoor Air 2011, Austin, TX, June, 2011.

W. J. Mills, B. J. Grigg, F. J. Offermann, B. E. Gustin, and N. E. Spingarm, “Toluene and Methyl Ethyl Ketone Exposure from a Commercially Available Contact Adhesive”, Journal of Occupational and Environmental Hygiene, 9:D95-D102 May, 2012.

F. J. Offermann, R. Maddalena, J. C. Offermann, B. C. Singer, and H. Wilhelm, “The Impact of Ventilation on the Emission Rates of Volatile Organic Compounds in Residences”, HB 2012, Brisbane, AU, July, 2012.

F. J. Offermann, A. T. Hodgson, P. L. Jenkins, R. D. Johnson, and T. J. Phillips, “Attached Garages as a Source of Volatile Organic Compounds in New Homes”, HB 2012, Brisbane, CA, July, 2012.

R. Maddalena, N. Li, F. Offermann, and B. Singer, “Maximizing Information from Residential Measurements of Volatile Organic Compounds”, HB 2012, Brisbane, AU, July, 2012.

W. Chen, A. Persily, A. Hodgson, F. Offermann, D. Poppendieck, and K. Kumagai, “Area-Specific Airflow Rates for Evaluating the Impacts of VOC emissions in U.S. Single-Family Homes”, Building and Environment, Vol. 71, 204-211, February, 2014.

F. J. Offermann, A. Eagan A. C. Offermann, and L. J. Radonovich, “Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications”, Indoor Air 2014, Hong Kong, July, 2014.

F. J. Offermann, “Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures”, Building and Environment, Vol. 93, Part 1, 101-105, November, 2015.

F. J. Offermann, “Formaldehyde Emission Rates From Lumber Liquidators Laminate Flooring Manufactured in China”, Indoor Air 2016, Belgium, Ghent, July, 2016.

F. J. Offermann, “Formaldehyde and Acetaldehyde Emission Rates for E-Cigarettes”, Indoor Air 2016, Belgium, Ghent, July, 2016.

OTHER REPORTS:

W.J.Fisk, P.G.Cleary, and F.J.Offermann, "Energy Saving Ventilation with Residential Heat Exchangers," a Lawrence Berkeley Laboratory brochure distributed by the Bonneville Power Administration, 1981.

F.J.Offermann, J.R.Girman, and C.D.Hollowell, "Midway House Tightening Project: A Study of Indoor Air Quality," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-12777, 1981.

F.J.Offermann, J.B.Dickinson, W.J.Fisk, D.T.Grimsrud, C.D.Hollowell, D.L.Krinkle, and G.D.Roseme, "Residential Air-Leakage and Indoor Air Quality in Rochester, New York," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-13100, 1982.

F.J.Offermann, W.J.Fisk, B.Pedersen, and K.L.Revzan, Residential Air-to-Air Heat Exchangers: A Study of the Ventilation Efficiencies of Wall- or Window- Mounted Units," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-14358, 1982.

F.J.Offermann, W.J.Fisk, W.W.Nazaroff, and R.G.Sextro, "A Review of Portable Air Cleaners for Controlling Indoor Concentrations of Particulates and Radon Progeny," An interim report for the Bonneville Power Administration, 1983.

W.J.Fisk, K.M.Archer, R.E.Chant, D.Hekmat, F.J.Offermann, and B.S. Pedersen, "Freezing in Residential Air-to-Air Heat Exchangers: An Experimental Study," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-16783, 1983.

R.G.Sextro, W.W.Nazaroff, F.J.Offermann, and K.L.Revzan, "Measurements of Indoor Aerosol Properties and Their Effect on Radon Progeny," Proceedings of the American Association of Aerosol Research Annual Meeting, April, 1983.

F.J.Offermann, R.G.Sextro, W.J.Fisk, W.W. Nazaroff, A.V.Nero, K.L.Revzan, and J.Yater, "Control of Respirable Particles and Radon Progeny with Portable Air Cleaners," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-16659, 1984.

W.J.Fisk, R.K.Spencer, D.T.Grimsrud, F.J.Offermann, B.Pedersen, and R.G.Sextro, "Indoor Air Quality Control Techniques: A Critical Review," Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-16493, 1984.

F.J.Offermann, J.R.Girman, and R.G.Sextro, "Controlling Indoor Air Pollution from Tobacco Smoke: Models and Measurements," Indoor Air, Proceedings of the 3rd International Conference on Indoor Air Quality and Climate, Vol 1, pp 257-264, Swedish Council for Building Research, Stockholm (1984), Lawrence Berkeley Laboratory, Berkeley, CA, Report LBL-17603, 1984.

R.Otto, J.Girman, F.Offermann, and R.Sextro, "A New Method for the Collection and Comparison of Respirable Particles in the Indoor Environment," Lawrence Berkeley Laboratory, Berkeley, CA, Special Director Fund's Study, 1984.

A.T.Hodgson and F.J.Offermann, "Examination of a Sick Office Building," Lawrence Berkeley Laboratory, Berkeley, CA, an informal field study, 1984.

R.G.Sextro, F.J.Offermann, W.W.Nazaroff, and A.V.Nero, "Effects of Aerosol Concentrations on Radon Progeny," *Aerosols, Science, & Technology, and Industrial Applications of Airborne Particles*, editors B.Y.H.Liu, D.Y.H.Pui, and H.J.Fissan, p525, Elsevier, 1984.

K.Sexton, S.Hayward, F.Offermann, R.Sextro, and L.Weber, "Characterization of Particulate and Organic Emissions from Major Indoor Sources, Proceedings of the Third International Conference on Indoor Air Quality and Climate, Stockholm, Sweden, August 20-24, 1984.

F.J.Offermann, "Tracer Gas Measurements of Laboratory Fume Entrainment at a Semiconductor Manufacturing Plant," an Indoor Environmental Engineering R&D Report, 1986.

F.J.Offermann, "Tracer Gas Measurements of Ventilation Rates in a Large Office Building," an Indoor Environmental Engineering R&D Report, 1986.

F.J.Offermann, "Measurements of Volatile Organic Compounds in a New Large Office Building with Adhesive Fastened Carpeting," an Indoor Environmental Engineering R&D Report, 1986.

F.J.Offermann, "Designing and Operating Healthy Buildings", an Indoor Environmental Engineering R&D Report, 1986.

F.J.Offermann, "Measurements and Mitigation of Indoor Spray-Applied Pesticides", an Indoor Environmental Engineering R&D Report, 1988.

F.J.Offermann and S. Loiselle, "Measurements and Mitigation of Indoor Mold Contamination in a Residence", an Indoor Environmental Engineering R&D Report, 1989.

F.J.Offermann and S. Loiselle, "Performance Measurements of an Air Cleaning System in a Large Archival Library Storage Facility", an Indoor Environmental Engineering R&D Report, 1989.

F.J. Offermann, J.M. Daisey, L.A. Gundel, and A.T. Hodgson, S. A. Loiselle, "Sampling, Analysis, and Data Validation of Indoor Concentrations of Polycyclic Aromatic Hydrocarbons", Final Report, Contract No. A732-106, California Air Resources Board, March, 1990.

L.A. Gundel, J.M. Daisey, and F.J. Offermann, "A Sampling and Analytical Method for Gas Phase Polycyclic Aromatic Hydrocarbons", Proceedings of the 5th International Conference on Indoor Air Quality and Climate, Indoor Air '90, July 29-August 1990.

A.T. Hodgson, J.M. Daisey, and F.J. Offermann "Development of an Indoor Sampling and Analytical Method for Particulate Polycyclic Aromatic Hydrocarbons", Proceedings of the 5th International Conference on Indoor Air Quality and Climate, Indoor Air '90, July 29-August, 1990.

F.J. Offermann, J.O. Sateri, "Tracer Gas Measurements in Large Multi-Room Buildings", Indoor Air '93, Helsinki, Finland, July 4-8, 1993.

F.J. Offermann, M. T. O'Flaherty, and M. A. Waz "Validation of ASHRAE 129 - Standard Method of Measuring Air Change Effectiveness", Final Report of ASHRAE Research Project 891, December 8, 1997.

S.E. Guffey, F.J. Offermann et. al., "Proceedings of the Workshop on Ventilation Engineering Controls for Environmental Tobacco smoke in the Hospitality Industry", U.S. Department of Labor Occupational Safety and Health Administration and ACGIH, 1998.

F.J. Offermann, R.J. Fiskum, D. Kosar, and D. Mudaari, "A Practical Guide to Ventilation Practices & Systems for Existing Buildings", *Heating/Piping/Air Conditioning Engineering* supplement to April/May 1999 issue.

F.J. Offermann, P. Pasanen, "Workshop 18: Criteria for Cleaning of Air Handling Systems", Healthy Buildings 2000, Espoo, Finland, August 2000.

F.J. Offermann, Session Summaries: Building Investigations, and Design & Construction, Healthy Buildings 2000, Espoo, Finland, August 2000.

F.J. Offermann, "The IAQ Top 10", Engineered Systems, November, 2008.

L. Kincaid and F.J. Offermann, "Unintended Consequences: Formaldehyde Exposures in Green Homes, AIHA Synergist, February, 2010.

F.J. Offermann, "IAQ in Air Tight Homes", ASHRAE Journal, November, 2010.

F.J. Offermann, "The Hazards of E-Cigarettes", ASHRAE Journal, June, 2014.

PRESENTATIONS :

"Low-Infiltration Housing in Rochester, New York: A Study of Air Exchange Rates and Indoor Air Quality," Presented at the International Symposium on Indoor Air Pollution, Health and Energy Conservation, Amherst, MA, October 13-16, 1981.

"Ventilation Efficiencies of Wall- or Window-Mounted Residential Air-to-Air Heat Exchangers," Presented at the American Society of Heating, Refrigeration, and Air Conditioning Engineers Summer Meeting, Washington, DC, June, 1983.

"Controlling Indoor Air Pollution from Tobacco Smoke: Models and Measurements," Presented at the Third International Conference on Indoor Air Quality and Climate, Stockholm, Sweden, August 20-24, 1984.

"Indoor Air Pollution: An Emerging Environmental Problem", Presented to the Association of Environmental Professionals, Bar Area/Coastal Region 1, Berkeley, CA, May 29, 1986.

"Ventilation Measurement Techniques," Presented at the Workshop on Sampling and Analytical Techniques, Georgia Institute of Technology, Atlanta, Georgia, September 26, 1986 and September 25, 1987.

"Buildings That Make You Sick: Indoor Air Pollution", Presented to the Sacramento Association of Professional Energy Managers, Sacramento, CA, November 18, 1986.

"Ventilation Effectiveness and Indoor Air Quality", Presented to the American Society of Heating, Refrigeration, and Air Conditioning Engineers Northern Nevada Chapter, Reno, NV, February 18, 1987, Golden Gate Chapter, San Francisco, CA, October 1, 1987, and the San Jose Chapter, San Jose, CA, June 9, 1987.

"Tracer Gas Techniques for Studying Ventilation," Presented at the Indoor Air Quality Symposium, Georgia Tech Research Institute, Atlanta, GA, September 22-24, 1987.

"Indoor Air Quality Control: What Works, What Doesn't," Presented to the Sacramento Association of Professional Energy Managers, Sacramento, CA, November 17, 1987.

"Ventilation Effectiveness and ADPI Measurements of a Forced Air Heating System," Presented at the American Society of Heating, Refrigeration, and Air Conditioning Engineers Winter Meeting, Dallas, Texas, January 31, 1988.

"Indoor Air Quality, Ventilation, and Energy in Commercial Buildings", Presented at the Building Owners & Managers Association of Sacramento, Sacramento, CA, July 21, 1988.

"Controlling Indoor Air Quality: The New ASHRAE Ventilation Standards and How to Evaluate Indoor Air Quality", Presented at a conference "Improving Energy Efficiency and Indoor Air Quality in Commercial Buildings," National Energy Management Institute, Reno, Nevada, November 4, 1988.

"A Study of Diesel Fume Entrainment Into an Office Building," Presented at Indoor Air '89: The Human Equation: Health and Comfort, American Society of Heating, Refrigeration, and Air Conditioning Engineers, San Diego, CA, April 17-20, 1989.

"Indoor Air Quality in Commercial Office Buildings," Presented at the Renewable Energy Technologies Symposium and International Exposition, Santa Clara, CA June 20, 1989.

"Building Ventilation and Indoor Air Quality", Presented to the San Joaquin Chapter of the American Society of Heating, Refrigeration, and Air Conditioning Engineers, September 7, 1989.

"How to Meet New Ventilation Standards: Indoor Air Quality and Energy Efficiency," a workshop presented by the Association of Energy Engineers; Chicago, IL, March 20-21, 1989; Atlanta, GA, May 25-26, 1989; San Francisco, CA, October 19-20, 1989; Orlando, FL, December 11-12, 1989; Houston, TX, January 29-30, 1990; Washington D.C., February 26-27, 1990; Anchorage, Alaska, March 23, 1990; Las Vegas, NV, April 23-24, 1990; Atlantic City, NJ, September 27-28, 1991; Anaheim, CA, November 19-20, 1991; Orlando, FL, February 28 - March 1, 1991; Washington, DC, March 20-21, 1991; Chicago, IL, May 16-17, 1991; Lake Tahoe, NV, August 15-16, 1991; Atlantic City, NJ, November 18-19, 1991; San Jose, CA, March 23-24, 1992.

"Indoor Air Quality," a seminar presented by the Anchorage, Alaska Chapter of the American Society of Heating, Refrigeration, and Air Conditioning Engineers, March 23, 1990.

"Ventilation and Indoor Air Quality", Presented at the 1990 HVAC & Building Systems Congress, Santa Clara, CA, March 29, 1990.

"Ventilation Standards for Office Buildings", Presented to the South Bay Property Managers Association, Santa Clara, May 9, 1990.

"Indoor Air Quality", Presented at the Responsive Energy Technologies Symposium & International Exposition (RETSIE), Santa Clara, CA, June 20, 1990.

"Indoor Air Quality - Management and Control Strategies", Presented at the Association of Energy Engineers, San Francisco Bay Area Chapter Meeting, Berkeley, CA, September 25, 1990.

"Diagnosing Indoor Air Contaminant and Odor Problems", Presented at the ASHRAE Annual Meeting, New York City, NY, January 23, 1991.

"Diagnosing and Treating the Sick Building Syndrome", Presented at the Energy 2001, Oklahoma, OK, March 19, 1991.

"Diagnosing and Mitigating Indoor Air Quality Problems" a workshop presented by the Association of Energy Engineers, Chicago, IL, October 29-30, 1990; New York, NY, January 24-25, 1991; Anaheim, April 25-26, 1991; Boston, MA, June 10-11, 1991; Atlanta, GA, October 24-25, 1991; Chicago, IL, October 3-4, 1991; Las Vegas, NV, December 16-17, 1991; Anaheim, CA, January 30-31, 1992; Atlanta, GA, March 5-6, 1992; Washington, DC, May 7-8, 1992; Chicago, IL, August 19-20, 1992; Las Vegas,

NV, October 1-2, 1992; New York City, NY, October 26-27, 1992, Las Vegas, NV, March 18-19, 1993; Lake Tahoe, CA, July 14-15, 1994; Las Vegas, NV, April 3-4, 1995; Lake Tahoe, CA, July 11-12, 1996; Miami, FL, December 9-10, 1996.

"Sick Building Syndrome and the Ventilation Engineer", Presented to the San Jose Engineers Club, May, 21, 1991.

"Duct Cleaning: Who Needs It ? How Is It Done ? What Are The Costs ?" What Are the Risks ?, Moderator of Forum at the ASHRAE Annual Meeting, Indianapolis ID, June 23, 1991.

"Operating Healthy Buildings", Association of Plant Engineers, Oakland, CA, November 14, 1991.

"Duct Cleaning Perspectives", Moderator of Seminar at the ASHRAE Semi-Annual Meeting, Indianapolis, IN, June 24, 1991.

"Duct Cleaning: The Role of the Environmental Hygienist," ASHRAE Annual Meeting, Anaheim, CA, January 29, 1992.

"Emerging IAQ Issues", Fifth National Conference on Indoor Air Pollution, University of Tulsa, Tulsa, OK, April 13-14, 1992.

"International Symposium on Room Air Convection and Ventilation Effectiveness", Member of Scientific Advisory Board, University of Tokyo, July 22-24, 1992.

"Guidelines for Contaminant Control During Construction and Renovation Projects in Office Buildings," Seminar paper at the ASHRAE Annual Meeting, Chicago, IL, January 26, 1993.

"Outside Air Economizers: IAQ Friend or Foe", Moderator of Forum at the ASHRAE Annual Meeting, Chicago, IL, January 26, 1993.

"Orientation to Indoor Air Quality," an EPA two and one half day comprehensive indoor air quality introductory workshop for public officials and building property managers; Sacramento, September 28-30, 1992; San Francisco, February 23-24, 1993; Los Angeles, March 16-18, 1993; Burbank, June 23, 1993; Hawaii, August 24-25, 1993; Las Vegas, August 30, 1993; San Diego, September 13-14, 1993; Phoenix, October 18-19, 1993; Reno, November 14-16, 1995; Fullerton, December 3-4, 1996; Fresno, May 13-14, 1997.

"Building Air Quality: A Guide for Building Owners and Facility Managers," an EPA one half day indoor air quality introductory workshop for building owners and facility managers. Presented throughout Region IX 1993-1995.

"Techniques for Airborne Disease Control", EPRI Healthcare Initiative Symposium; San Francisco, CA; June 7, 1994.

“Diagnosing and Mitigating Indoor Air Quality Problems”, CIHC Conference; San Francisco, September 29, 1994.

”Indoor Air Quality: Tools for Schools,” an EPA one day air quality management workshop for school officials, teachers, and maintenance personnel; San Francisco, October 18-20, 1994; Cerritos, December 5, 1996; Fresno, February 26, 1997; San Jose, March 27, 1997; Riverside, March 5, 1997; San Diego, March 6, 1997; Fullerton, November 13, 1997; Santa Rosa, February 1998; Cerritos, February 26, 1998; Santa Rosa, March 2, 1998.

ASHRAE 62 Standard “Ventilation for Acceptable IAQ”, ASCR Convention; San Francisco, CA, March 16, 1995.

“New Developments in Indoor Air Quality: Protocol for Diagnosing IAQ Problems”, AIHA-NC; March 25, 1995.

"Experimental Validation of ASHRAE SPC 129, Standard Method of Measuring Air Change Effectiveness", 16th AIVC Conference, Palm Springs, USA, September 19-22, 1995.

“Diagnostic Protocols for Building IAQ Assessment”, American Society of Safety Engineers Seminar: ‘Indoor Air Quality – The Next Door’; San Jose Chapter, September 27, 1995; Oakland Chapter, 9, 1997.

“Diagnostic Protocols for Building IAQ Assessment”, Local 39; Oakland, CA, October 3, 1995.

“Diagnostic Protocols for Solving IAQ Problems”, CSU-PPD Conference; October 24, 1995.

“Demonstrating Compliance with ASHRAE 62-1989 Ventilation Requirements”, AIHA; October 25, 1995.

“IAQ Diagnostics: Hands on Assessment of Building Ventilation and Pollutant Transport”, EPA Region IX; Phoenix, AZ, March 12, 1996; San Francisco, CA, April 9, 1996; Burbank, CA, April 12, 1996.

“Experimental Validation of ASHRAE 129P: Standard Method of Measuring Air Change Effectiveness”, Room Vent ‘96 / International Symposium on Room Air Convection and Ventilation Effectiveness”; Yokohama, Japan, July 16-19, 1996.

“IAQ Diagnostic Methodologies and RFP Development”, CCEHSA 1996 Annual Conference, Humboldt State University, Arcata, CA, August 2, 1996.

“The Practical Side of Indoor Air Quality Assessments”, California Industrial Hygiene Conference ‘96, San Diego, CA, September 2, 1996.

“ASHRAE Standard 62: Improving Indoor Environments”, Pacific Gas and Electric Energy Center, San Francisco, CA, October 29, 1996.

“Operating and Maintaining Healthy Buildings”, April 3-4, 1996, San Jose, CA; July 30, 1997, Monterey, CA.

“IAQ Primer”, Local 39, April 16, 1997; Amdahl Corporation, June 9, 1997; State Compensation Insurance Fund’s Safety & Health Services Department, November 21, 1996.

“Tracer Gas Techniques for Measuring Building Air Flow Rates”, ASHRAE, Philadelphia, PA, January 26, 1997.

“How to Diagnose and Mitigate Indoor Air Quality Problems”; Women in Waste; March 19, 1997.

“Environmental Engineer: What Is It?”, Monte Vista High School Career Day; April 10, 1997.

“Indoor Environment Controls: What’s Hot and What’s Not”, Shaklee Corporation; San Francisco, CA, July 15, 1997.

“Measurement of Ventilation System Performance Parameters in the US EPA BASE Study”, Healthy Buildings/IAQ’97, Washington, DC, September 29, 1997.

“Operations and Maintenance for Healthy and Comfortable Indoor Environments”, PASMA; October 7, 1997.

“Designing for Healthy and Comfortable Indoor Environments”, Construction Specification Institute, Santa Rosa, CA, November 6, 1997.

“Ventilation System Design for Good IAQ”, University of Tulsa 10th Annual Conference, San Francisco, CA, February 25, 1998.

“The Building Shell”, Tools For Building Green Conference and Trade Show, Alameda County Waste Management Authority and Recycling Board, Oakland, CA, February 28, 1998.

“Identifying Fungal Contamination Problems In Buildings”, The City of Oakland Municipal Employees, Oakland, CA, March 26, 1998.

“Managing Indoor Air Quality in Schools: Staying Out of Trouble”, CASBO, Sacramento, CA, April 20, 1998.

“Indoor Air Quality”, CSOOC Spring Conference, Visalia, CA, April 30, 1998.

“Particulate and Gas Phase Air Filtration”, ACGIH/OSHA, Ft. Mitchell, KY, June 1998.

“Building Air Quality Facts and Myths”, The City of Oakland / Alameda County Safety Seminar, Oakland, CA, June 12, 1998.

“Building Engineering and Moisture”, Building Contamination Workshop, University of California Berkeley, Continuing Education in Engineering and Environmental Management, San Francisco, CA, October 21-22, 1999.

“Identifying and Mitigating Mold Contamination in Buildings”, Western Construction Consultants Association, Oakland, CA, March 15, 2000; AIG Construction Defect Seminar, Walnut Creek, CA, May 2, 2001; City of Oakland Public Works Agency, Oakland, CA, July 24, 2001; Executive Council of Homeowners, Alamo, CA, August 3, 2001.

“Using the EPA BASE Study for IAQ Investigation / Communication”, Joint Professional Symposium 2000, American Industrial Hygiene Association, Orange County & Southern California Sections, Long Beach, October 19, 2000.

“Ventilation,” Indoor Air Quality: Risk Reduction in the 21st Century Symposium, sponsored by the California Environmental Protection Agency/Air Resources Board, Sacramento, CA, May 3-4, 2000.

“Workshop 18: Criteria for Cleaning of Air Handling Systems”, Healthy Buildings 2000, Espoo, Finland, August 2000.

“Closing Session Summary: ‘Building Investigations’ and ‘Building Design & Construction’”, Healthy Buildings 2000, Espoo, Finland, August 2000.

“Managing Building Air Quality and Energy Efficiency, Meeting the Standard of Care”, BOMA, MidAtlantic Environmental Hygiene Resource Center, Seattle, WA, May 23rd, 2000; San Antonio, TX, September 26-27, 2000.

“Diagnostics & Mitigation in Sick Buildings: When Good Buildings Go Bad,” University of California Berkeley, September 18, 2001.

“Mold Contamination: Recognition and What To Do and Not Do”, Redwood Empire Remodelers Association; Santa Rosa, CA, April 16, 2002.

“Investigative Tools of the IAQ Trade”, Healthy Indoor Environments 2002; Austin, TX; April 22, 2002.

“Finding Hidden Mold: Case Studies in IAQ Investigations”, AIHA Northern California Professionals Symposium; Oakland, CA, May 8, 2002.

“Assessing and Mitigating Fungal Contamination in Buildings”, Cal/OSHA Training; Oakland, CA, February 14, 2003 and West Covina, CA, February 20-21, 2003.

“Use of External Containments During Fungal Mitigation”, Invited Speaker, ACGIH Mold Remediation Symposium, Orlando, FL, November 3-5, 2003.

Building Operator Certification (BOC), 106-IAQ Training Workshops, Northwest Energy Efficiency Council; Stockton, CA, December 3, 2003; San Francisco, CA, December 9, 2003; Irvine, CA, January 13, 2004; San Diego, January 14, 2004; Irwindale, CA, January 27, 2004; Downey, CA, January 28, 2004; Santa Monica, CA, March 16, 2004; Ontario, CA, March 17, 2004; Ontario, CA, November 9, 2004, San Diego, CA, November 10, 2004; San Francisco, CA, November 17, 2004; San Jose, CA, November 18, 2004; Sacramento, CA, March 15, 2005.

“Mold Remediation: The National QUEST for Uniformity Symposium”, Invited Speaker, Orlando, Florida, November 3-5, 2003.

“Mold and Moisture Control”, Indoor Air Quality workshop for The Collaborative for High Performance Schools (CHPS), San Francisco, December 11, 2003.

“Advanced Perspectives In Mold Prevention & Control Symposium”, Invited Speaker, Las Vegas, Nevada, November 7-9, 2004.

“Building Sciences: Understanding and Controlling Moisture in Buildings”, American Industrial Hygiene Association, San Francisco, CA, February 14-16, 2005.

“Indoor Air Quality Diagnostics and Healthy Building Design”, University of California Berkeley, Berkeley, CA, March 2, 2005.

“Improving IAQ = Reduced Tenant Complaints”, Northern California Facilities Exposition, Santa Clara, CA, September 27, 2007.

“Defining Safe Building Air”, Criteria for Safe Air and Water in Buildings, ASHRAE Winter Meeting, Chicago, IL, January 27, 2008.

“Update on USGBC LEED and Air Filtration”, Invited Speaker, NAFA 2008 Convention, San Francisco, CA, September 19, 2008.

“Ventilation and Indoor air Quality in New California Homes”, National Center of Healthy Housing, October 20, 2008.

“Indoor Air Quality in New Homes”, California Energy and Air Quality Conference, October 29, 2008.

“Mechanical Outdoor air Ventilation Systems and IAQ in New Homes”, ACI Home Performance Conference, Kansas City, MO, April 29, 2009.

“Ventilation and IAQ in New Homes with and without Mechanical Outdoor Air Systems”, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

“Ten Ways to Improve Your Air Quality”, Northern California Facilities Exposition, Santa Clara, CA, September 30, 2009.

“New Developments in Ventilation and Indoor Air Quality in Residential Buildings”, Westcon meeting, Alameda, CA, March 17, 2010.

“Intermittent Residential Mechanical Outdoor Air Ventilation Systems and IAQ”, ASHRAE SSPC 62.2 Meeting, Austin, TX, April 19, 2010.

“Measured IAQ in Homes”, ACI Home Performance Conference, Austin, TX, April 21, 2010.

“Respiration: IEQ and Ventilation”, AIHce 2010, How IH Can LEED in Green buildings, Denver, CO, May 23, 2010.

“IAQ Considerations for Net Zero Energy Buildings (NZEB)”, Northern California Facilities Exposition, Santa Clara, CA, September 22, 2010.

“Energy Conservation and Health in Buildings”, Berkeley High School Green Career Week, Berkeley, CA, April 12, 2011.

“What Pollutants are Really There ?”, ACI Home Performance Conference, San Francisco, CA, March 30, 2011.

“Energy Conservation and Health in Residences Workshop”, Indoor Air 2011, Austin, TX, June 6, 2011.

“Assessing IAQ and Improving Health in Residences”, US EPA Weatherization Plus Health, September 7, 2011.

“Ventilation: What a Long Strange Trip It’s Been”, Westcon, May 21, 2014.

“Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures”, Indoor Air 2014, Hong Kong, July, 2014.

“Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications”, Indoor Air 2014, Hong Kong, July, 2014.

“Chemical Emissions from E-Cigarettes”, IMF Health and Welfare Fair, Washington, DC, February 18, 2015.

“Chemical Emissions and Health Hazards Associated with E-Cigarettes”, Roswell Park Cancer Institute, Buffalo, NY, August 15, 2014.

“Formaldehyde Indoor Concentrations, Material Emission Rates, and the CARB ATCM”, Harris Martin’s Lumber Liquidators Flooring Litigation Conference, WQ Minneapolis Hotel, May 27, 2015.

“Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposure”, FDA Public Workshop: Electronic Cigarettes and the Public Health, Hyattsville, MD June 2, 2015.

“Creating Healthy Homes, Schools, and Workplaces”, Chautauqua Institution, Athenaeum Hotel, August 24, 2015.

“Diagnosing IAQ Problems and Designing Healthy Buildings”, University of California Berkeley, Berkeley, CA, October 6, 2015.

“Diagnosing Ventilation and IAQ Problems in Commercial Buildings”, BEST Center Annual Institute, Lawrence Berkeley National Laboratory, January 6, 2016.

“A Review of Studies of Ventilation and Indoor Air Quality in New Homes and Impacts of Environmental Factors on Formaldehyde Emission Rates From Composite Wood Products”, AIHce2016, May, 21-26, 2016.

“Admissibility of Scientific Testimony”, Science in the Court, Proposition 65 Clearinghouse Annual Conference, Oakland, CA, September 15, 2016.

“Indoor Air Quality and Ventilation”, ASHRAE Redwood Empire, Napa, CA, December 1, 2016.



TO: The Honorable Planning and Land Use Management (PLUM) Committee
Los Angeles City Council

FROM: Eystone Environmental

DATE: June 17, 2025

SUBJECT: June 24, 2025 PLUM Hearing

12531–12575 West Beatrice Street; 5410–5454 South Jandy Place
(CPC-2016-1208-CU-SPR-1A, ENV-2020-3533-EIR)—Responses to
Supporters Alliance for Environmental Responsibility (SAFER) March 12, 2025
Comment Letter

cc: Kathleen King, Department of City Planning

Eystone Environmental prepared the Environmental Impact Report (EIR) for the New Beatrice West Project (City of Los Angeles ENV-2020-3533-EIR) (Project), which Los Angeles City Planning Commission (CPC) approved on March 13, 2025. The CPC's Letter of Determination (LOD) was released on April 2, 2025.

On March 12, 2025, the day before the CPC hearing, at 5:00 P.M., the law office of Lozeau Drury, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER) submitted a comment letter to the CPC (SAFER Letter). In addition, on April 8, 2025, SAFER filed an appeal (SAFER Appeal) of the CPC's actions, which will be considered by the Los Angeles City Council's Planning and Land Use Management Committee on June 24, 2025. Responses to the substantive topics in the SAFER Letter are provided below. As demonstrated below, none of the comments contained in the SAFER Letter raise new topics not previously addressed nor do the comments identify any potentially new or substantially increased environmental impacts.

As a preliminary matter, the SAFER Letter, which is 65 pages, did not comply with the CPC rules limiting submissions within 48 hours to two pages. Further, the SAFER Appeal justification contains no specific substantive comments and did not incorporate or even refer to the SAFER Letter. Although each comment in the SAFER Letter is addressed herein, we note that the SAFER Appeal fails procedurally to establish any substantive comments and should have incorporated the SAFER Letter for it to be properly considered.



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SAFER Letter Comment No. 1

SAFER introduces noise analysis prepared by Wilson Ihrig and notes adverse health effects such as noise-induced hearing loss, speech interference, sleep disturbance, cardiovascular and physiological effects, and impaired cognitive performance.

Response to SAFER Letter Comment No. 1

This comment does not raise any specific environmental issues related to the Project's noise analysis included in the EIR. Refer to SAFER Letter Comment No. 2 through 4, below, for responses to Wilson Ihrig's specific comments.

SAFER Letter Comment No. 2

SAFER and Wilson Ihrig claim that the reductions in noise levels attributed to the proposed noise mitigation measures are unrealistic and ineffective to receptors on upper floors and suggest additional mitigation measures.

Response to SAFER Letter Comment No. 2

The comment and attached analysis incorrectly confuses the *moveable* sound barrier required by the third bullet of Mitigation Measure NOI-MM-1 with the *fixed* sound barrier required by the first and second bullets of Mitigation Measure NOI-MM-1. Temporary *moveable* noise barriers are typically limited to a 10 dBA noise reduction due to the height limitation of the sound barrier; whereas the temporary *fixed* sound barrier can be taller and provide higher noise reduction (i.e., 15 dBA). As indicated in the comment, "A solid permanent barrier at the parameter of the site could provide 15 dBA of reduction, depending on site geometry and barrier construction." The Wilson Ihrig analysis assumed that the Project would utilize a 10-foot-high noise barrier for the construction. However, the Draft EIR did not specify a 10-foot-high barrier for the Project construction site, but instead assigns a minimum noise reduction standard (i.e., 15 dBA). As specified in the Mitigation Monitoring Program included as Section IV of the Final EIR, Mitigation Measure NOI-MM-1 requires documentation prepared by a noise consultant verifying compliance with the specified noise reduction, e.g., 15 dBA for the on-site construction activities.

The comment also indicates that the temporary sound barrier would not provide shielding for the upper floors, which is consistent with the conclusion of the Draft EIR (page



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IV.I-49) that construction noise impacts would remain significant and unavoidable even with implementation of Mitigation Measure NOI-MM-1. To further mitigate construction noise in the upper floors, the comment suggests providing coverings on the receiver side; however, this would not be financially or practically feasible, nor would it be an appropriate measure to treat temporary noise increases. The subject sensitive receptor is a multifamily structure, so it would be financially infeasible to provide window coverings for each unit. Window coverings at the receiver location requires physical construction activities to be implemented at the off-site buildings that are not owned by the Applicant, and it is speculative to assume the property owner and residents at the receiver location would allow the construction of the coverings. Finally, the permanent window coverings are inappropriate for the short-term construction period.

The comment also suggests shielding around the construction equipment and a noise monitoring program during construction. However, Project Design Feature NOI-PDF-1 already incorporates shielding of construction equipment, and Mitigation Measure NOI-MM-1 requires documentation by a noise consultant to verify compliance with the mitigation measures required for the Project, i.e., plans showing that the temporary and impermeable sound barriers would achieve the specified noise reduction. In addition, Mitigation Measure NOI-MM-1 is included in the Mitigation Monitoring Program for the Project to ensure implementation, and is an enforceable condition of approval. Accordingly, the Draft EIR demonstrates that the Project's construction noise is mitigated by Mitigation Measure NOI-MM-1 to the extent feasible.

SAFER Letter Comment No. 3

SAFER and Wilson Ihrig claim that there are errors in the operational noise analysis and that the analysis fails to identify potentially significant noise impacts associated with mechanical noise from rooftop equipment. A request for a figure showing the SoundPLAN model used for the analysis is also included.

Response to SAFER Letter Comment No. 3

The comment indicates that the Project noise analysis did not evaluate mechanical noise levels at the upper levels of receptor location R1. Contrary to the comment, the Draft EIR analyzed operational noise levels at both ground and upper level receptor locations (refer to Appendix I, pages 112 to 116). The operational noise analysis provided in Section IV.I, Noise, of the Draft EIR, represents the worst-case scenario, i.e., increased noise



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levels at the ground and upper levels based on conservative analytical assumptions. As indicated in Appendix I, page 113, of the Draft EIR, the estimated noise level of 37.1 dBA at receptor location R1 is at the upper level.

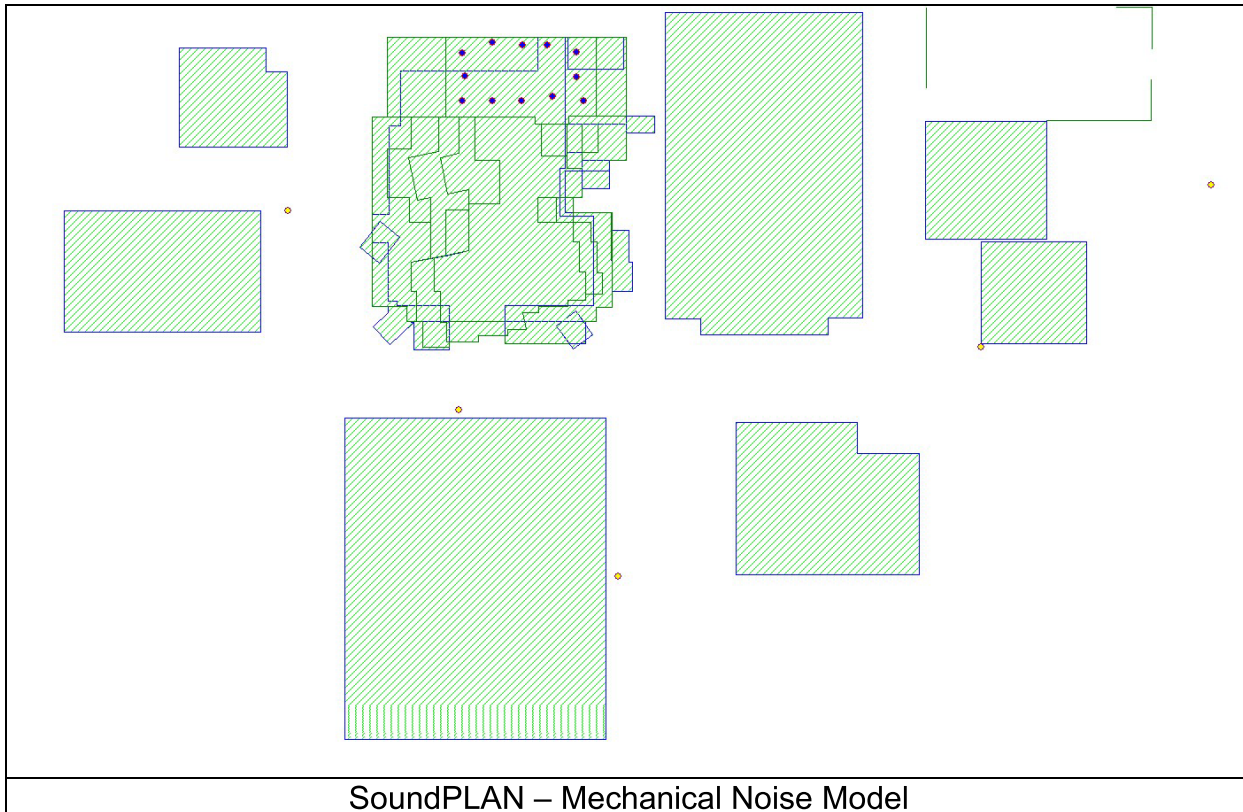
The comment provides a sample noise calculation for the mechanical equipment, based on an assumption that the mechanical equipment would be located at the edge of the building with direct line-of-sight to the off-site receptor location R1. However, as indicated in Section IV.I, Noise, of the Draft EIR (page IV.I-38), new mechanical equipment would be located at the building roof level. As provided in Section II, Project Description, of the Draft EIR (page II-9), the building roof level would be 135 feet above grade, which would be higher than the four-story residential building at receptor location R1. In addition, the Project rooftop level mechanical equipment would not be along the southern edge of the building, as the outdoor deck would be located along the south side of the building. The building's mechanical equipment would be at the northern end of the building roof level, away from receptor location R1. Therefore, as receptor location R1 is at a lower elevation, it would be shielded from the Project building mechanical equipment. As such, the sample calculations provided by Wilson Ihrig are erroneous and inapplicable to the Project.

As provided in Appendix I of the Draft EIR, input noise source levels and output noise levels at the receptor locations are provided from the printout of the SoundPLAN noise model. As requested, provided below is the graphical printout of the SoundPLAN noise model for the building mechanical equipment noise analysis.

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SAFER Letter Comment No. 4

SAFER and Wilson Ihrig comment that other mitigation measures should be considered to address the Project's construction vibration impacts with respect to human annoyance, such as buffer distances for certain equipment or coordination with the recording studio hours of operation.

Response to SAFER Letter Comment No. 4

The comment suggests buffer distances for certain equipment to avoid vibration impacts associated with human annoyance. In order to reduce the vibration impacts related to human annoyance to a less-than-significant level, the construction would need to be shifted a minimum of 75 feet inward toward the east and 25 feet inward toward the north, which would physically impede construction of the Project and thus would not be feasible. The comment also suggests coordinating construction with the adjacent recording studios. However, given that the permitted construction hours under the LAMC are



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presumed to be similar to the recording studios hours of operation, scheduling of construction outside these hours would be infeasible without requiring nighttime construction, which would cause increased significant noise and vibration impacts for other receptors.

SAFER Letter Comment No. 5

SAFER alleges that the Draft EIR and Final EIR fail to analyze and mitigate potentially significant indoor air quality impacts and suggests a pre-construction formaldehyde emissions assessment and other mitigation measures and introduces analysis prepared by Mr. Francis Offermann.

Response to SAFER Letter Comment No. 5

The comment claims that the Project would result in significant indoor air quality impacts due to formaldehyde emissions from the Project's building materials and furnishings. It should be noted that an analysis of the Project's impacts on indoor air quality is not required under CEQA. CEQA concerns itself with the Project's impacts on the surrounding environment, not the Project's impacts on future Project residents and/or employees. Specifically, the Supreme Court's holding in *California Building Industry Association v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 found that CEQA does not require a project to evaluate the potential impacts on future residents of a project, except to the extent that the project may exacerbate existing environmental conditions at or near a project site. There is no evidence that there is an existing formaldehyde issue at the Project site or that the Project could result in any exacerbation of any such existing issue (as discussed below). Therefore, the alleged indoor air quality impacts associated with formaldehyde emissions on future Project residents are not CEQA impacts, and no additional analysis or mitigation is required. Nonetheless, SAFER's comments on indoor air quality are addressed below.

Mr. Offermann's indoor air quality analysis does not constitute substantial evidence of significant air quality impacts as it relies on inaccurate and unsupportable assumptions and fails to acknowledge the Project's compliance with current regulations related to formaldehyde and building materials. In addition, Mr. Offermann provides limited corroborating data (e.g., data promulgated by CARB) to support his own opinion, and the research relied on is unrelated and inapplicable to the Project.



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Mr. Offermann's analysis of the Project's potential indoor air quality impacts overestimates the amount of potential employee exposure to formaldehyde from the Project in several aspects causing the results to be inaccurate. First, Mr. Offermann's analysis assumes that employees would inhale 20 cubic meters of air per day yet cites no evidence to substantiate this claim. In fact, according to the American Lung Association, the average person inhales approximately 2,000 gallons of air per day, or roughly only 7.57 cubic meters per day.¹ Second, Mr. Offermann's assumption that the daily exposure level of formaldehyde would be constant for a 45-year period significantly overestimates the amount of potential formaldehyde emissions from the Project. Based on the U.S. Bureau of Labor Statistics, the median number of years that wage and salary workers had been with their current employer was 4.1 years in January 2020, and Mr. Offermann offers no evidence that the future Project employees would not adhere to these expectations.²

Further, formaldehyde emissions from construction materials do not remain constant and, in fact, decrease over time.³ According to CARB, formaldehyde off-gassing from construction materials is "rapid," occurring initially when the product is made and decreasing over time.⁴ Thus, Mr. Offermann's assumptions that the employees of the Project would be exposed to a consistent dose of formaldehyde for 40 hours per week over a period of 45 years is unsubstantiated. By significantly overstating the exposure amount and duration, Mr. Offermann does not provide an accurate assessment of risk exposure and does not provide credible evidence of significant impacts related to indoor air quality.

Mr. Offermann's analysis is also inaccurate because it assumes that construction materials would not comply with applicable regulations. The Project's building materials would be compliant with the LAMC, L.A. Green Building Code, and other applicable regulations including those established by CARB, which provide highly stringent

¹ American Lung Association, How Your Lungs Get the Job Done, website: www.lung.org/blog/how-your-lungs-work, accessed October 2021.

² United States Bureau of Labor Statistics, News Release, Employee Tenure in 2020, released September 22, 2020, website: <https://www.bls.gov/news.release/pdf/tenure.pdf>, accessed October 2021.

⁵ California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819, accessed December 2021.

⁵ California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819, accessed December 2021.



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specifications for acceptable formaldehyde concentrations in composite wood products (CWP), and which have demonstrably resulted in significant reductions in formaldehyde concentrations in newly constructed buildings. Compliance with these regulations would ensure that impacts with respect to formaldehyde would be less than significant.

The Project would also be required to comply with the CARB ATCM (Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from CWP). The purpose of this ATCM 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. The CWP covered by this regulation are hardwood plywood, particleboard, and medium density fiberboard.” The measure applies to manufacturers, distributors, importers, fabricators (that use such materials to make other goods), retailers, third party certifiers who manufacture, offer for sale or supply these goods in California. The control measure ensures that all building materials and furnishings manufactured, distributed, imported and used in new construction in California meet the maximum allowable concentrations to reduce indoor formaldehyde emissions from CWP. According to CARB, from a public health standpoint, the CWP Regulation’s emission standards are set at low levels intended to protect public health.⁵

In addition, the Project would be required to comply with the California Green Building Standards Code (Part 11 of Title 24 of the California Code of Regulations), commonly referred to as CALGreen. The Project would be built with materials that are compliant with current CALGreen regulations, which are intended to set low levels of formaldehyde in CWP materials and are designed to reduce the quantity of air contaminants to acceptable levels. CALGreen provides mandatory non-residential measures to reduce the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and wellbeing of a building’s installers, occupants, and neighbors. It includes Volatile Organic Compounds (VOC) limits for paints, coating, adhesives, adhesive bonding primers, sealants, sealant primers, and caulk. The Project would comply with Section 5.504.4 of CALGreen, which requires hardwood plywood, particleboard and medium density fiberboard CWP used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in CALGreen Table 5.504.4.5. Further,

⁵ California Air Resources Board, Frequently Asked Questions for Consumers, Reducing Formaldehyde Emissions from Composite Wood Products, ww3.arb.ca.gov/toxics/compwood/consumer_faq.pdf?_ga=2.32900281.682464648.1573169874-1026610208.1565143819, accessed December 2021.



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Section A5.504.4.5.1 of CALGreen requires CWP to be approved by the Air Resources Board (ARB) as no-added formaldehyde (NAF) based resins or ultra-low emitting formaldehyde (ULEF) resins. Compliance with these requirements would be verified by the Department of Building and Safety through the plan approval process and as noted in item 23 of the City of Los Angeles Building Code Plan Check Notes—Form GRN-15.⁶

To the City's knowledge, there are no credible or peer-reviewed studies which assessed long-term indoor concentrations and associated lifetime exposure to formaldehyde in new homes and commercial spaces in California that suggest the existing rules and regulations on formaldehyde in building materials are ineffective, nor has Mr. Offermann cited any such studies. The existing rules and regulations are robust and adequate to ensure that issues related to formaldehyde from building materials will not be an issue for indoor air quality for the Project.

With regards to Mr. Offermann's proposed methodology for analyzing carcinogenic risks in an office and commercial building, as a fundamental point, the City of Los Angeles as the Lead Agency for CEQA review has the discretion to apply the thresholds of significance and appropriate methodologies used for impact analysis. Notably, there are no requirements or guidance from SCAQMD or relevant agencies to evaluate such risk from indoor air quality. In fact, indoor air quality is not within the jurisdiction of SCAQMD. Mr. Offermann cites a 10 in one million cancer risk threshold in his comments. However, this threshold is intended to be used to evaluate the increase in cancer risk above ambient outdoor air conditions. Therefore, the application of the 10 in one million threshold for indoor air quality is not appropriate or supported by any evidence provided by Mr. Offerman. Here, the City applied the thresholds from the CEQA Guidelines, and used methodologies customary for air quality impacts, consistent with guidelines and policies of the relevant regulatory agencies. The City's choice of thresholds and methods is supported by substantial evidence in the administrative record. Mr. Offermann cannot supplant the Lead Agency's discretion merely by proposing a new method of impact analysis. Neither the SCAQMD nor the City of Los Angeles provide significance thresholds for indoor air quality.

⁶ See City of Los Angeles Building Code Plan Check Notes—Form GRN-15, www.ladbs.org/docs/default-source/forms/green-building-2017/green-building-code-plan-check-notes-non-residential-buildings.pdf.



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Mr. Offermann also references SCAQMD's Multiple Air Toxics Exposure Study (MATES V) which identifies an existing cancer risk in the Project area of 460 per million and contends that this health risk would further exacerbate the pre-existing cancer risk to employees, and recommends providing MERV 13 filtration. However, it is noted that the cancer risk in this area is predominately related to nearby sources of diesel particulate (e.g., Los Angeles International Airport and State Route 90). Notwithstanding, the Project would be required to comply with the City's Green Building Code which mandates MERV 13 filtration.⁷ As such, the Project would already provide for the mechanical supply of outdoor air ventilation suggested by Mr. Offermann (i.e., MERV 13). Therefore, Mr. Offermann does not provide any substantial evidence of indoor air quality impacts from the Project.

Further, Mr. Offermann cites a research paper, *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation* (Chan, W., Kim, Y., Singer, B., and Walker I. 2019. *Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation*. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200, DOI: 10.20357/B7QC7X). This research paper collected data about ventilation practices and indoor air quality, measuring indoor air concentrations of formaldehyde emitted from CWP that might contain formaldehyde-based glues. However, this research paper only included single-family detached structures, located in California, and built between 2011 and 2017 and thus would not reflect an appropriate comparison as the Project, which consists of an eight-story office building built in 2025. Single-family residential construction typically would use more wood or formaldehyde containing products in comparison to high-rise non-residential construction, which would be constructed with a different combination of steel, concrete, and wood construction. The interior building materials have not been selected and would change from time to time over the life of the Project as a result of demising interior tenant spaces and tenant improvements based on lease tenure and turn-over rates. Further, the Project would be built to the latest California Building Code standards, including CALGreen, which, as discussed above, include ventilation requirements that improve indoor air quality protecting residents from air pollution originating from outdoor and indoor sources and establish appropriate levels of formaldehyde in CWP. The single-family homes built between 2011 and 2017 covered by this study were subject to the previous versions of the California Building Code standards that did not include such stringent requirements.

⁷ 2020 City of Los Angeles Green Building Code Plan Check Notes, Non-Residential Buildings.



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Therefore, directly applying results from this research paper to the Project is a false equivalency. Moreover, the research paper does not represent substantial evidence that the Project, which would be constructed using a lesser percentage of formaldehyde containing materials and would also be subject to even more stringent formaldehyde limiting regulations, would pose health risks to workers from indoor air quality.

Additionally, Mr. Offermann fails to concede that the research paper acknowledges that California regulations have been effective in reducing formaldehyde concentrations in homes and states “[c]omparisons of indoor formaldehyde...levels with those from a prior study of new homes in California (conducted in 2007–08) suggest that contaminant levels are lower in recently built (after 2008) homes. California’s regulation to limit formaldehyde emissions from composite wood products appears to have substantially lowered its emission rate and concentration in new homes.”⁸

In summary, Mr. Offermann’s comments are not supported by substantial evidence, and significantly overestimate the amount of daily formaldehyde exposure from the Project and are based on inaccurate exposure assumptions. As described above, these assumptions are unreasonable and are not based on real life exposure potential. Further, it is inaccurate to assume that applicable laws and regulations pertaining to building materials would not be followed. Thus, Mr. Offermann substantially overestimates the amount of formaldehyde emissions to which future workers in the Project could be exposed, as well as potential health impacts. Moreover, Mr. Offermann applies studies and thresholds that are inapplicable or irrelevant, and mischaracterizes conclusions in such studies to support his own opinion. As demonstrated above, the Project would not result in any significant impacts related to indoor air quality impacts, which are not considered CEQA impacts, and Mr. Offerman’s suggested mitigation measures are unwarranted and need not be considered.

SAFER Letter Comment No. 6

SAFER alleges various impacts related to outdoor air ventilation and suggests mitigation to address potential impacts to future Project residents.

⁸ Chan, W., Kim, Y., Singer, B., and Walker I. 2019. Ventilation and Indoor Air Quality in New California Homes with Gas Appliances and Mechanical Ventilation. Lawrence Berkeley National Laboratory, Energy Technologies Area, LBNL-2001200, DOI: 10.20357/B7QC7X.



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Response to SAFER Letter Comment No. 6

Mr. Offermann's comment regarding air exchange rates from outdoor ventilation provides a speculative statement that many people never open their windows resulting in low outdoor air exchange rates and higher indoor air contaminant concentrations; however, no evidence is offered to support this statement. The mechanical air supply for the Project will meet the specifications of the City's Green Building Code as required for non-residential and commercial spaces, including MERV 13 filtration. This comment provides no substantial evidence that the Project would result in significant impacts or require any mitigation of outdoor air ventilation. Therefore, the suggested mitigation need not be considered.

With regard to the comment on interior noise levels, the State has established noise insulation standards for new non-residential and commercial uses under Title 24 of the California Code of Regulations, collectively known as the California Noise Insulation Standards. The California Noise Insulation Standards set forth interior standards and require an acoustical analysis demonstrating how the Project has been designed to meet interior standards. Compliance with the California Noise Insulation Standards would be verified by the Department of Building and Safety through the plan approval process.

SAFER Letter Comment No. 7

SAFER suggests an air quality analysis be conducted to determine the concentrations of PM_{2.5} in the outdoor and indoor air that people inhale each day.

Response to SAFER Letter Comment No. 7

CEQA does not require evaluation of the impact of the existing environment on future residents of the Project, unless the Project exacerbates the impact. (*California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386.) Further, as demonstrated by the air quality analysis in the EIR, neither the Project's construction nor operations would result in emissions of PM_{2.5} in excess of SCAQMD regional or localized thresholds.

This comment also contends that concentration of PM_{2.5} will exceed the California and National Ambient Air Quality Standards for PM_{2.5} annual and 24-hour concentrations and warrant installation of high efficiency air filters (i.e., MERV 13 or higher) in all



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mechanically supplied outdoor air ventilation systems. It is important to note that this comment incorrectly characterizes that ambient air quality standards apply to indoor spaces. “Ambient” is applicable to outdoor concentrations and the SCAQMD does not have indoor air quality standards or significance thresholds for indoor concentrations. Regardless, the Project would be required to comply with the City’s Green Building Code which mandates MERV 13 filtration.⁹ As such, the Project would already provide for the mechanical supply of outdoor air ventilation suggested by Mr. Offermann (i.e., MERV 13) and would serve to reduce both toxic air contaminants and PM_{2.5} concentrations. Additionally, Mr. Offermann does not provide any substantial evidence of indoor air quality impacts from the Project and as discussed above there are no SCAQMD indoor pollutant significance thresholds.

SAFER Letter Comment No. 8

SAFER claims that the Statement of Overriding Consideration must consider whether the Project provides employment opportunities for highly trained workers.

Response to SAFER Letter Comment No. 8

As stated in the Final EIR in response to a comment¹⁰ from Coalition for Responsible Equitable Economic Development Los Angeles (CREEDLA), this comment does not raise issues with respect to the Draft EIR or the impact analyses therein. The City has complied with and will continue to comply with Public Resources Code (PRC) Section 21081 and all related provisions in connection with this Project. In addition, there is no requirement to use union labor in order to adopt a statement of overriding considerations. This comment is nevertheless noted for the administrative record and will be forwarded to the decision-makers for review and consideration. No further response is necessary.

Further, SAFER erroneously claims that the Statement of Overriding Considerations (SOC) does not address employment opportunities for highly trained workers. In fact, the SOC provides:

- The Project would support the growth of the City’s economic base by creating jobs in both Project construction and operation. The Project would create commercial opportunities that could serve local employees, generate local tax revenues, and

⁹ 2020 City of Los Angeles Green Building Code Plan Check Notes, Non Residential Buildings.

¹⁰ See New Beatrice West Project Final EIR, Section 11, Response to Comments, CREED Comment Letter No. 3, pgs. II-10 through II-54



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provide new permanent jobs, which would also increase the Project area employment population to support local businesses; and

- The Project would provide significant employment opportunities in office, research, and commercial uses, including media, arts, and design development, which will benefit the community, city, and region.

(See page F-44 of the Letter of Determination for the Project dated April 2, 2025.)