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October 19, 2023

***Via Email***

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**Re: Comment on Proposed CEQA Infill Exemption for the Van Nuys Apartment Project (DIR-2022-7247-TOC-SPR-HCA), October 26, 2023 Planning Commission Meeting – Agenda Item No. 11**

Dear President Millman and Honorable Members of the Los Angeles City Planning Commission:

I am writing on behalf of Supporters Alliance for Environmental Responsibility (“SAFER”) regarding the proposed Class 32 Infill Development Categorical Exemption (“Categorical Exemption” or “Class 32 Exemption”) for a six-story mixed-use project proposed at 7115 and 7131 N. Van Nuys Boulevard in the City of Los Angeles (“Project”).

On May 18, 2023, the Hearing Officer determined that the Project is exempt from California Environmental Quality Act (“CEQA”) pursuant to the Class 32 Exemption, and as a result, no additional review of the Project’s environmental impacts is required.

After further review, SAFER appeals the City of Los Angeles (“City”) Hearing Officer’s determination which will exempt the Project (DIR-2022-7247-TOC-SPR-HCA-1A; ENV-2022-7248-CE) from review under the California Environmental Quality Act (“CEQA”). As discussed below, the City cannot demonstrate how their decision to exempt the Project fully complies with the terms of a Class 32 Exemption. Since the Project is not exempt from CEQA, an Initial Study must be prepared and circulated to determine the appropriate level of CEQA review required, be it an Environmental Impact Report (“EIR”) or a Mitigated Negative Declaration (“MND”).

## PROJECT DESCRIPTION

The Applicant, Benjamin Golshani, VNB, LLC, seeks to develop the Project at 7115 and 7131 N. Van Nuys Boulevard and 14525, 14357 W. Sherman Circle. The project involves the construction, use, and maintenance of new, six-story, 195,273 square-foot mixed-use building with 214 dwelling units, including 24 dwelling units set aside for affordable housing (or 11% of the proposed density) the 24 units will be reserved is for Extremely Low Income (ELI) Households and 15,804 square-feet of commercial space. The building will be constructed with five (5) residential levels above one (1) ground floor level of commercial space, lobby area, parking, and two (2) levels of subterranean parking. The project includes 179 studio units, 35 one-bedroom units, and a total of 22,383 square feet of open space for residents.

## LEGAL STANDARD

As the California Supreme Court has held, “[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR.” (*Communities for a Better Env’t v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20 (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88); *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). “Significant environmental effect” is defined very broadly as “a substantial or potentially substantial adverse change in the environment.” (Pub. Res. Code (“PRC”) § 21068; see also, 14 CCR § 15382). An effect on the environment need not be “momentous” to meet the CEQA test for significance; it is enough that the impacts are “not trivial.” (*No Oil, Inc.*, 13 Cal.3d at 83). “The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” (*Communities for a Better Env’t v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109).

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. (14 CCR § 15002(k); *Committee to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185-86 (“*Hollywoodland*”).) First, if a project falls into an exempt category, or it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further agency evaluation is required. (*Id.*) Second, if there is a possibility the project will have a significant effect on the environment, the agency must perform an initial threshold study. (*Id.*; 14 CCR § 15063(a).) If the study indicates that there is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, the agency may issue a negative declaration. (*Id.*; 14 CCR §§ 15063(b)(2), 15070.) Finally, if the project will have a significant effect on the environment, an environmental impact report (“EIR”) is required. (*Id.*) Here, since the City exempted the Project from CEQA entirely, we are at the first step of the CEQA process.

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

Here, the City is relying on the Class 32 Exemption pursuant to CEQA Guidelines section 15332, which exempts infill development projects from CEQA where the following conditions are met:

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

(14 CCR § 15332 [emph. added].)

As discussed below, the Project does not qualify for the Infill Exemption because the Project will have significant noise and air quality impacts. As a result, the Project is not exempt from CEQA and the City must prepare an Initial Study followed by an EIR or MND prior to approval of the Project.

## DISCUSSION

### **I. The Project Does Not Qualify for CEQA’s Infill Exemption Due to Potentially Significant Air Quality Impacts.**

A project cannot qualify for CEQA’s Class 32 Exemption if the project results in significant air quality impacts. (14 CCR § 15332(d).) The Hearing Officer determined that approval of the Project will not result in any significant effects relating to air quality based on an

air quality technical report prepared by Yorke Engineering, LLC in July 2022 (“Yorke”). However, independent expert analysis reveals that this conclusion is incorrect, and the Project will have a significant air quality impact. As such, a Class 32 Exemption is improper and additional environmental review is required.

**a. The City Failed to Adequately Analyze the Project’s Air Quality and Greenhouse Impacts.**

The Project’s estimated air quality and greenhouse gas (“GHG”) emissions are underestimated and inadequately supported. SWAPE reviewed the CalEEMod output files – the underlying data files used to estimate a project’s air emissions. SWAPE determined that several model inputs used to generate a project’s construction and operation emissions were unsubstantiated and inconsistent with information disclosed in the Categorical Exemption Consistency Analysis. As a result, the Project’s construction and operational emissions are underestimated. Additional environmental review should be prepared to include an updated air quality and GHG analysis. SWAPE’s expert comments and CVs are attached as Exhibit A.

Specifically, SWAPE identified several values used in Yorke’s air quality analysis that were found to be either inconsistent with information provided in the Categorical Exemption or otherwise unjustified, including:

Air Quality

1. Failure to Provide Complete CalEEMod Output Files;
2. Unsubstantiated Changes to Individual Construction Phase Lengths;
3. Unsubstantiated Amount of Required Demolition; and
4. Unsubstantiated Changes to Operational Wastewater Values.

Greenhouse Gas

1. Incorrect and Unsubstantiated Quantitative Analysis of Emissions;
2. Incorrect Reliance on an Outdated Quantitative GHG Threshold; and
3. Failure to Identify a Potentially Significant GHG Impact.

(Ex. A, pp. 2-7, 9-10.)

For example, SWAPE explains that pursuant to the Association of Environmental Professionals (“AEP”) Guidance, “[F]or evaluating projects with a post 2020 horizon, the threshold will need to be revised based on a new gap analysis that would examine 17 development and reduction potentials out to the next GHG reduction milestone.”<sup>1</sup> Provided how the Project was introduced in October 2022, thresholds for 2020 “are not applicable to the proposed Project and should be revised to reflect the current GHG reduction target.” (Ex. A, p. 9.) As a result of these shortcomings in Yorke’s analysis, the construction and operational

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<sup>1</sup> “Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California.” Association of Environmental Professionals (AEP), October 2016, *available at*: [https://califaep.org/docs/AEP-2016\\_Final\\_White\\_Paper.pdf](https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf), p. 39.

emissions conclusions in the Project’s Categorical Exemption cannot be relied upon to determine the significance of the Project’s air quality or GHG impacts. As SWAPE explains, “the CalEEMod User’s Guide requires any changes to model defaults be justified.” (Ex. A, p. 6.) Here, however, the analysis does not provide a justification for making such substantial changes.

Without information to support the changes made to the CalEEMod inputs, the City lacks substantial evidence to conclude the Project will not have significant air quality and GHG impacts.

**b. The Project will have Potentially Significant Outdoor Air Quality Impacts.**

Air quality experts Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D., of the environmental consulting firm, Soil/Water/Air Protection Enterprise (“SWAPE”) assisted in the review of the Project, including the draft air quality and GHG study prepared by Yorke, and concluded that the Project will have potentially significant impacts. SWAPE’s expert comments and CVs are attached as Exhibit A.

When SWAPE updated the input parameters used in CalEEMod Version 2020.4.0 and re-ran the model, the “updated analysis estimates that the Project’s construction-related VOC emissions would exceed the applicable South Coast Air Quality Management District (“SCAQMD”) threshold of 75-pounds per day (“lbs/day”).” (Ex. A, p. 7.)

SWAPE Criteria Air Pollutant Emissions	
Construction	ROG (lbs/day)
Exemption	40.3
SWAPE	129.0
% Increase	220%
SCAQMD Threshold	<b>75</b>
<i>Exceeds?</i>	<b>Yes</b>

(Ex. A, p. 8.)

In addition, based on the more precise input parameters, SWAPE concluded that the Project would have a significant GHG impact because “the Project’s service population efficiency value exceeds the SCAQMD 2035 efficiency target of 3.8 MT CO<sub>2</sub>e/SP/year, indicating a potentially significant impact.” (*Id.*, p. 10.)

Project Greenhouse Gas Emissions	
Annual Emissions (MT CO <sub>2</sub> e/year)	2,503
Service Population	655
Service Population Efficiency (MT CO <sub>2</sub> e/SP/year)	3.8
SCAQMD 2035 Target	3.0
Exceeds?	Yes

(Ex. A, p. 10.)

In utilizing the same CalEEMod system to estimate Project emissions, SWAPE's diligent analysis is substantial evidence of the significant air quality and GHG impacts arising from this Project. As such, the City cannot rely on the Class 32 Exemption. Further environmental review pursuant to CEQA must be conducted and should take into consideration all feasible mitigation measures the Project should adopt to bring the emissions levels below a significant threshold.

**c. The Project will have significant indoor air quality impacts.**

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH conducted a review of the Project and relevant documents regarding the Project's indoor air emissions. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. Mr. Offermann concludes that it is likely that the Project will expose residents and commercial employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde, a known human carcinogen. Mr. Offermann's expert comments and CV are attached as Exhibit B.

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

Here, the City failed to perform an adequate analysis concerning the cancer risks associated with long-term exposure to carcinogenic TACs because of the Project, for both residents and workers. Mr. Offermann states that future residents of the Project will be exposed to a cancer risk from formaldehyde of approximately 120 per million, even assuming all materials are compliant with the California Air Resources Board's ("CARB") formaldehyde

airborne toxics control measure. (Ex. B, pp. 3-4.) In addition, Mr. Offermann states that employees of the Project's commercial spaces will be exposed to a cancer risk of 17.7 per million from formaldehyde emissions. (*Id.*, pp. 4-5.) These risk levels both exceed SCAQMD's CEQA significance threshold for airborne cancer risk of 10 per million. (*Id.*)

Furthermore, the City failed to analyze the additional impacts of motor vehicle traffic and the subsequent increase in exposure to particulate matter ("PM2.5"). In 1998, the State of California identified diesel particulate matter ("DPM") derived from diesel-powered engines as a Toxic Air Contaminant ("TAC") based on its potential to cause cancer. DPM is typically composed of carbon particles and a variety of organic compounds including more than 40 known cancer-causing organic substances.

Mr. Offermann notes that the high cancer risk that may be posed by the Project's indoor air emissions will be exacerbated by the additional cancer risk that exists as a result of the Project's location within the South Coast Air Basin, a state and federal non-attainment area for PM2.5, and in an area with moderate to high traffic. (Ex. B, p. 2.) Specifically, he notes that "the SCAQMD's MATES V study cites an existing cancer risk of 418 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." (*Id.*, p. 5.) Formaldehyde emissions from composite wood products will exacerbate this pre-existing cancer risk.

Mr. Offermann predicts that the projected traffic noise levels, the annual average PM2.5 concentrations will exceed both state and federal standards, thereby necessitating both additional air quality analyses to determine PM2.5 concentrations as well as the installation of technology in order to reduce the impacts to a less-than-significant level. (*Id.*, p. 12.) However, the City again failed to analyze these issues, as well as the cumulative impacts associated with the Project's emissions.

Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the installation of air filters and a requirement that the applicant 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 or ultra-low emitting formaldehyde (ULEF) resins in the buildings' interiors. (*Id.*, pp. 12-14.)

These significant environmental impacts preclude the use of a Categorical Exemption for the Project. These impacts should be reviewed in a full CEQA analysis and mitigation measures should be imposed to reduce the risk of formaldehyde exposure.

## **II. Exemptions from CEQA are Prohibited Where Mitigation Measures are Required to Reduce a Project's Possible Significant Impacts.**

A project that requires mitigation measures cannot be exempted from CEQA, nor can the agency rely on mitigation measures as a basis for determining that one of the significant effects exceptions does not apply. (*Salmon Pro. & Watershed Network v. County of Marin* (2004) 125 Cal.App4th 1098, 1102 (“*SPAWN*”).) The Court in *SPAWN* thoroughly explained why projects that require mitigation are not eligible for an exemption from CEQA. (*Id.* at 1106-08.) If mitigation measures are required, the public has a right to review and comment on the adequacy of those mitigation measures, which can only be accomplished through the public review process provided for an MND or EIR.

Here, the City’s noise analysis discloses that mitigation measures were *assumed to apply* when concluding the Project’s noise impacts would be less-than-significant. (Yorke Noise Study, p. 16.) The noise analysis states that “[t]o minimize the impacts, the Project will implement technically feasible control measures in compliance with the standards set forth in LAMC Section 112.05. Specifically, the use of deflectors/barriers such as plywood construction fencing (½-inch thickness), flexible sound-absorbing curtains, or existing intervening buildings, can reduce line-of-sight exterior noise levels by approximately 5 to 15 dBA, depending on the applied physical configuration.” (*Id.*) Wilson Ihrig highlights how the City itself “even uses the word ‘mitigated’ in the title of the table” that describes the estimated noise impacts and how the measures taken would reduce the effects. (Ex. C, p. 3.)

The City cannot exempt the Project because the public has a right to know the unmitigated Project impacts and comment on the adequacy of the analysis and proposed mitigation measures. Absence of such review and comment period is improper because the City evaluated the Project conditionally rather than evaluating whether the Project could result in a significant impact *without* the mitigation described in the Exemption. (*See SPAWN, supra*, 125 Cal.App.4th at 1103-04, 1107-09.) The City’s mitigated categorical exemption violates CEQA and the Project cannot proceed with the Class 32 Exemption.

### **III. The Project Does Not Qualify for CEQA’s Infill Exemption Due to Potentially Significant Noise Impacts.**

A project cannot qualify for CEQA’s Class 32 Exemption if the project results in significant noise impacts. (14 CCR § 15332(d).) The City’s expert, Yorke, prepared a noise analysis for the Project. However, as discussed above, the analysis improperly assumed mitigation measures would apply in concluding the Project’s noise impacts would be less-than-significant.

Expert acoustical consults from the firm Wilson Ihrig explain in their comments that the Project will have significant noise impacts. (See Wilson Ihrig’s comments, attached hereto as Exhibit C.) Indeed, even with the City’s proposed mitigation measures, the Project will have an impact. Wilson Ihrig explains that, the City’s noise analysis improperly assumed a 5-15 dBA of noise reducing from shielding. While this reduction may occur for receptors at the same height as the shield, “there is no effect for upper floor receivers.” (Ex. C, p. 4.) Receivers on the second

floor and above would receive no benefit from the shielding effect. (*Id.*) When the noise reduction from shielding improperly applied to all sensitive receptors is corrected, Wilson Ihrig determined that noise levels will exceed the threshold of significance, precluding reliance on an exemption. (*Id.*)

Further, Wilson Ihrig explains that the City's noise analysis is so flawed and inadequate, it cannot be relied on to determine whether the Project will result in a significant noise impact.

The City's analysis is flawed in three ways. First, the analysis failed to take baseline noise measures to establish existing environmental conditions. (Ex. C, p. 3.) Instead, the analysis states that it relied on the Federal Highway Administration ("FHWA") model, which Wilson Ihrig explains cannot serve as a reliable model "as it only models noise from a single point, not a line-source such as from a roadway." (*Id.*) In addition, the FHWA traffic model alone – or any traffic model – cannot accurately represent the noise environment, particularly here, given "the high density of pedestrian activity, airplanes from nearby Bob Hope airport, multiple bus lines running up and down Van Nuys Blvd and variable speeds from a 6-lane road that is also 500 feet from a major intersection." (*Id.*)

Second, Yorke's operational noise assessment is incomplete and instead relies on an improper comparison between the existing HVAC systems and one proposed by the Project. Whereas the existing HVAC equipment for two fast-food restaurants are situated approximately twenty feet high, the Project's proposed HVAC system will be situated on top of a six-story structure to accommodate over 200 residential units. (Yorke Noise Study, p. 18.)

In spite of this very obvious difference and without any additional analysis performed, Yorke concludes "the overall noise levels generated by the new HVAC equipment are not expected to be substantially greater than generated by older HVAC equipment installed on existing buildings near the Project site." (*Id.*) As Wilson Ihrig points out, "it is evident that the cooling requirements for the expanded space would be considerably higher compared to the existing use. The substantial increase in power consumption necessary for adequately cooling the expanded space will inevitably result in additional operational noise. This noise, which arises from the intensified operation of HVAC systems, is expected to surpass the levels associated with the current use." (Ex. C, p. 4.)

Yorke's conclusions fail to provide substantial evidence, and the City cannot rely on them. Wilson Ihrig suggests a full operational analysis to be conducted in order to better understand the Project's noise impacts on nearby apartments and whether such noise levels generated by the proposed HVAC system would exceed significance thresholds. (Ex. p. 4.)

Lastly, the Project fails to consider any noise impacts related to traffic noise. As Wilson Ihrig points out, the document does not include any analysis related to traffic noise. (Ex. C, p. 4.) In fact, Wilson Ihrig explains that "[c]onsidering there is only one other large apartment complex

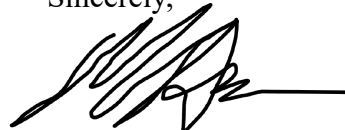
on Sherman Circle, it is not unreasonable to assume that the new project could result in a doubling of traffic, with is typically a 3 dBA increase”, and which would typically be considered a significant impacts in other jurisdictions. (*Id.*)

Therefore, the Project’s significant noise impacts as well as the unanalyzed operational and traffic noise impacts preclude the use of a Categorical Exemption for the Project. These impacts should be reviewed in a full CEQA analysis and mitigation measures should be imposed to reduce the risk of formaldehyde exposure.

### CONCLUSION

The City cannot invoke a Class 32 Exemption because the Project does not meet the terms of the Exemption, the information relied on is based on unsubstantiated evidence, and there is instead substantial evidence that demonstrates the Project’s significant impacts. A Class 32 Exemption is also improper where the Project requires mitigation measures and where the City relied on mitigation measures as a basis for determining that one of the significant effects exceptions does not apply. Accordingly, the City must prepare an Initial Study to determine the appropriate level of environmental review to undertake pursuant to CEQA, be it an MND or an EIR. Thank you for considering these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Marjan R. Abubo', with a long horizontal line extending to the right.

Marjan R. Abubo  
Lozeau | Drury LLP

# Exhibit A



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June 30, 2023

Adam Frankel  
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**Subject: Comments on the 7115 North Van Nuys Boulevard Project**

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Dear Mr. Frankel,

We have reviewed the Class 32 CEQA Exemption ("Exemption") for the 7115 North Van Nuys Boulevard ("Project") located in the City of Los Angeles ("City"). The Project proposes to construct a 195,273-square-foot ("SF") mixed-use building consisting of 214 dwelling units, 15,804-SF of commercial space, and two levels of subterranean parking on the 0.701-acre site.

Our review concludes that the Exemption fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. A full CEQA analysis should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

## **Air Quality**

### **Incorrect Reliance on Class 32 Categorical Exemption**

The Exemption claims that the Project is categorically exempt pursuant to CEQA Guidelines § 15332. Specifically, regarding the criteria associated with Class 32 Categorical Exemptions, the Exemption states:

"A project qualifies for a Class 32 Categorical Exemption if it is developed on an infill site and meets the following criteria:

1. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

2. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
3. The project site has no value as habitat for endangered, rare or threatened species.
4. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
5. The site can be adequately served by all required utilities and public services” (p. 2-3).

Furthermore, in accordance with the above-mentioned guidelines, the Exemption concludes:

“The project meets the conditions for a Class 32 Exemption found in CEQA Guidelines, Section 15332 (In-Fill Development Projects), and none of the exceptions to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 apply” (p. 3).

As demonstrated above, a project can only be characterized as an in-fill development and qualify for a Class 32 Categorical Exemption if “approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.” The Exemption claims that the Project would result in less-than-significant air quality impacts (p. 3). However, this claim is unsubstantiated, as the Project’s air quality analysis is unreliable for the following three reasons:

- (1) The Exemption fails to provide complete CalEEMod output files;
- (2) The Exemption relies upon an unsubstantiated and potentially incorrect air model; and
- (3) SWAPE’s updated air model indicates a potentially significant impact.

#### *1) Failure to Provide Complete CalEEMod Output Files*

Land use development projects under CEQA typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model (“CalEEMod”).<sup>1</sup> CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project’s construction and operational emissions are calculated, and “output files” are generated. These output files disclose to the reader what parameters are utilized in calculating the Project’s air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

Regarding the evaluation of the criteria air pollutant emissions associated with Project construction and operation, the July 2022 Air Quality, Greenhouse Gas, and Noise Study (“AQ & GHG Study”) states:

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<sup>1</sup> “CalEEMod User’s Guide.” California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>.

“The construction and operation analysis were performed using CalEEMod version 2022, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and GHG emissions associated with both construction and operations of land use projects under CEQA” (p. 2).

As stated above, the AQ & GHG Study relies on CalEEMod Version 2022.1 to estimate the Project’s emissions. However, this poses a problem as the currently available version of CalEEMod 2022.1 is described as a “soft release” which fails to provide complete output files.<sup>2</sup> Specifically, the “User Changes to Default Data” table no longer provides the quantitative counterparts to the changes to the default values (see excerpt below) (AQ & GHG Study, pp. 111):

Screen	Justification
Land Use	Total lot acreage is 1.08 acres, with 178,258 sqft of residential space distributed across 5 levels.
Construction: Construction Phases	Longer architectural coating phase to reflect steady work for a smaller painting crew.
Operations: Hearths	Proposed project will not have hearths or wood stoves.
Operations: Water and Waste Water	Proposed Project is located in an urban area and will not involve septic or facultative lagoons.

However, previous CalEEMod Versions, such as 2020.4.0, include the specific numeric changes to the model’s default values (see example excerpt below):

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	167.00
tblConstructionPhase	PhaseEndDate	11/22/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	9/27/2023	6/30/2023
tblConstructionPhase	PhaseEndDate	10/25/2023	7/28/2023
tblConstructionPhase	PhaseStartDate	10/26/2023	7/29/2023
tblConstructionPhase	PhaseStartDate	9/28/2023	7/1/2023
tblLandUse	LandUseSquareFeet	160,000.00	160,371.00
tblLandUse	LandUseSquareFeet	119,000.00	41,155.00
tblLandUse	LotAcreage	3.67	3.68
tblLandUse	LotAcreage	2.73	2.74

The output files associated with CalEEMod Version 2022.1 fail to present the exact parameters used to calculate Project emissions. To remedy this issue, the AQ & GHG Study should have provided access to the model’s “.JSON” output files, which allow third parties to review the model’s revised input parameters.<sup>3</sup> Without access to the complete output files, including the specific numeric changes to the default values, we cannot verify that the AQ & GHG Study’s air modeling and subsequent analysis is an accurate reflection of the proposed Project. As a result, a full CEQA analysis should be prepared to

<sup>2</sup> “CalEEMod California Emissions Estimator Model Soft Release.” California Air Pollution Control Officers Association (CAPCOA), 2022, available at: <https://caleemod.com/>.

<sup>3</sup> “Video Tutorials for CalEEMod Version 2022.1.” California Air Pollution Control Officers Association (CAPCOA), May 2022, available at: <https://www.caleemod.com/tutorials>.

include an updated air quality analysis that correctly provides the complete output files for CalEEMod Version 2022.1, or includes an updated air model using an older release of CalEEMod.<sup>4</sup>

## 2) *Unsubstantiated Input Parameters Used to Estimate Project Emissions*

As previously discussed, the AQ & GHG Study relies on CalEEMod Version 2022.1 to estimate the Project's air quality emissions and fails to provide the complete output files required to adequately evaluate model's analysis (p. 2). Regardless, when reviewing the Project's CalEEMod output files, provided as Attachment 1 to the AQ & GHG Study, we were able to identify several model inputs that are inconsistent with information disclosed in the Exemption. As such, the Project's construction and operational emissions are underestimated. A full CEQA analysis should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project will have on local and regional air quality.

### Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "VNB\_base Detailed Report" model includes changes to the default construction schedule (see excerpt below) (AQ & GHG Study, pp. 111).

Screen	Justification
Land Use	Total lot acreage is 1.08 acres, with 178,258 sqft of residential space distributed across 5 levels.
Construction: Construction Phases	Longer architectural coating phase to reflect steady work for a smaller painting crew.
Operations: Hearths	Proposed project will not have hearths or wood stoves.
Operations: Water and Waste Water	Proposed Project is located in an urban area and will not involve septic or facultative lagoons.

As a result of these changes, the model includes the following construction schedule (see excerpt below) (AQ & GHG Study, pp. 92):

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Demolition	Demolition	7/26/2022	8/23/2022	5.00	20.0
Site Preparation	Site Preparation	8/24/2022	8/26/2022	5.00	2.00
Grading	Grading	8/27/2022	9/1/2022	5.00	4.00
Building Construction	Building Construction	9/2/2022	6/9/2023	5.00	200
Paving	Paving	6/10/2023	6/24/2023	5.00	10.0
Architectural Coating	Architectural Coating	6/25/2023	8/20/2023	5.00	40.0

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.<sup>5</sup> As demonstrated above in the "User Changes to Default Data" table, the justification provided for these changes is:

"Longer architectural coating phase to reflect steady work for a smaller painting crew" (AQ & GHG Study, pp. 111).

<sup>4</sup> "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <http://www.aqmd.gov/caleemod/download-model>.

<sup>5</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 1, 14.

However, this justification is insufficient, as the Exemption and associated documents fail to mention or corroborate this claim. According to the CalEEMod User's Guide:

"CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." <sup>6</sup>

As the Exemption fails to provide substantial evidence to support the longer architectural coating phase, we cannot verify the change is an accurate representation of the expected construction schedule.

The construction schedule included in the model presents an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).<sup>7</sup>

**Demolition** involves removing buildings or structures.

**Site Preparation** involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.

**Grading** involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.

**Building Construction** involves the construction of the foundation, structures and buildings.

**Architectural Coating** involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

**Paving** involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

By disproportionately altering and extending some of the individual construction phase lengths without proper justification, the model assumes there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Until we are able to verify the revised construction schedule, the model may underestimate the peak daily emissions associated with some phases of construction and should not be relied upon to determine Project significance.

#### Unsubstantiated Amount of Required Demolition

Review of the CalEEMod output files demonstrates that the "VNB\_base Detailed Report" model includes 520 tons of demolition debris (see excerpt below) (AQ & GHG Study, pp. 97-98).

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<sup>6</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 13, 14.

<sup>7</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, available at: <https://www.aqmd.gov/caleemod/user's-guide>, p. 32.

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)
Demolition	0.00	0.00	0.00	520
Site Preparation	—	—	1.88	0.00
Grading	—	—	4.00	0.00
Paving	0.00	0.00	0.00	0.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.<sup>8</sup> However, the "User Changes to Default Data" table fails to provide a justification for the amount of material to be demolished (AQ & GHG Study, pp. 111). Additionally, while the Exemption indicates that the Project includes the demolition of the existing structures, it fails to disclose the tons of demolition debris estimated to be generated during Project construction (p. 2). Therefore, the amount of demolition material inputted into the model may be underestimated.

This potential underestimation presents an issue, as the total amount of demolition material is used by CalEEMod to determine emissions associated with the demolition phase of construction. By failing to substantiate the amount of required demolition, the model may underestimate emissions associated with fugitive dust, debris removal, as well as exhaust from hauling trucks traveling to and from the Project site.<sup>9</sup> As such, until additional information is provided regarding the estimated amount of demolition required for Project construction, the model should not be relied upon to determine the significance of the Project's air quality impacts.

### Unsubstantiated Changes to Operational Wastewater Values

Review of the CalEEMod output files demonstrates that "VNB\_base Detailed Report" model includes changes to the default operational water and wastewater values (see excerpt below) (AQ & GHG Study, pp. 111).

Screen	Justification
Land Use	Total lot acreage is 1.08 acres, with 178,258 sqft of residential space distributed across 5 levels.
Construction: Construction Phases	Longer architectural coating phase to reflect steady work for a smaller painting crew.
Operations: Hearths	Proposed project will not have hearths or wood stoves.
Operations: Water and Waste Water	Proposed Project is located in an urban area and will not involve septic or facultative lagoons.

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.<sup>10</sup> As demonstrated above in the "User Changes to Default Data" table, the justification provided for these changes is:

"Proposed Project is located in an urban area and will not involve septic or facultative lagoons" (AQ & GHG Study, pp. 111).

<sup>8</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>, p. 1, 14.

<sup>9</sup> "CalEEMod User's Guide Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>, p. 11.

<sup>10</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>, p. 1, 14.

However, this justification is insufficient, as the Exemption and associated documents fail to mention or corroborate this claim. As previously discussed, the CalEEMod User's Guide requires changes to be supported by substantial evidence.<sup>11</sup> As the Exemption and AQ & GHG Study fail to provide substantial evidence to support the assumption that septic and facultative lagoons will not be involved in the wastewater treatment process, we cannot verify the changes.

Furthermore, additional review demonstrates that CalEEMod version 2022.1 fails to display the waste water treatment values and percentages. As such, we can not verify these changes.

These unsubstantiated changes present an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.<sup>12</sup> Thus, by including unsubstantiated changes to the default wastewater treatment system percentages, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

### *3) Updated Analysis Indicated Potentially Significant Air Quality Impact*

In an effort to more accurately estimate the Project's construction-related and operational emissions, we utilized CalEEMod Version 2020.4.0, as well as the Project-specific information provided by the Exemption.<sup>13</sup> Consistent with the Exemption's model, we included 178,258-SF of "Apartments Mid Rise," 70,560-SF of "Enclosed Parking with Elevator," 19,470-SF of "Unenclosed Parking with Elevator," and 15,800-SF of "Strip Mall." Additionally, we omitted the unsubstantiated changes to the individual construction phase lengths and operational water and wastewater values.<sup>14</sup>

Our updated analysis estimates that the Project's construction-related VOC emissions would exceed the applicable South Coast Air Quality Management District ("SCAQMD") threshold of 75-pounds per day ("lbs/day"), as referenced by the AQ & GHG Study (see table below) (p. 4, Table 2).<sup>15</sup>

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<sup>11</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>, p. 13, 14.

<sup>12</sup> "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at*: <https://www.aqmd.gov/caleemod/user's-guide>, p. 45.

<sup>13</sup> "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), March 2022, *available at*: <http://www.aqmd.gov/caleemod/download-model>.

<sup>14</sup> See Attachment A for updated air modeling.

<sup>15</sup> "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, April 2019, *available at*: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

SWAPE Criteria Air Pollutant Emissions	
Construction	ROG (lbs/day)
Exemption	40.3
SWAPE	129.0
% Increase	220%
SCAQMD Threshold	<b>75</b>
Exceeds?	<b>Yes</b>

As you can see in the table above, the Project's construction-related VOC emissions, as estimated by SWAPE, increase by approximately 220% and exceed the applicable SCAQMD significance threshold. Our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the Exemption or AQ & GHG Study. A full CEQA study should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

## Greenhouse Gas

### Failure to Adequately Evaluate Greenhouse Gas Impacts

The AQ & GHG Study estimates that the Project would generate net annual greenhouse gas ("GHG") emissions of 2,503 metric tons of carbon dioxide equivalents per year ("MT CO<sub>2</sub>e/year"), which would not exceed the SCAQMD threshold of 3,000 MT CO<sub>2</sub>e/year (see excerpt below) (p. 9, Table 7).

Table 7: Greenhouse Gas Emissions Summary and Significance Evaluation				
Greenhouse Gases	Unmitigated (MT/yr)	Mitigated (MT/yr)	Threshold (MT/yr)	Significance
CO <sub>2</sub>	2,462	2,451	—	—
CH <sub>4</sub>	0.79	0.79	—	—
N <sub>2</sub> O	0.10	0.10	—	—
CO <sub>2</sub> e	2,513	2,503	3,000	LTS

Sources: SCAQMD 2019, 2008b, CalEEMod version 2022

However, the AQ & GHG Study's analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

- (1) The Exemption's quantitative GHG analysis relies upon a flawed air model;
- (2) The Exemption's quantitative GHG analysis relies upon an outdated threshold; and
- (3) The Exemption fails to identify a potentially significant impact.

### *1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions*

As previously stated, the AQ & GHG Study estimates that the Project would generate net annual GHG emissions of 2,503 MT CO<sub>2</sub>e/year (p. 9, Table 7). However, the AQ & GHG Study's quantitative GHG analysis is unsubstantiated. As previously discussed, when we reviewed the Project's CalEEMod output files, provided in Attachment 1 to the AQ & GHG Study, we found that several of the values inputted into the models are not consistent with information disclosed in the Exemption. As a result, the model underestimates the Project's emissions, and the AQ & GHG Study's quantitative GHG analysis should not be relied upon to determine Project significance. A full CEQA analysis should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the environment.

### *2) Incorrect Reliance on an Outdated Quantitative GHG Threshold*

As previously stated, the AQ & GHG Study estimates that the Project would generate net annual GHG emissions of 2,503 MT CO<sub>2</sub>e/year, which would not exceed the SCAQMD bright-line threshold of 3,000 MT CO<sub>2</sub>e/year (p. 9, Table 7). However, the guidance that provided the 3,500 MT CO<sub>2</sub>e/year threshold, the SCAQMD's 2008 *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report, was developed when the Global Warming Solutions Act of 2006, commonly known as "AB 32", was the governing statute for GHG reductions in California. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020.<sup>16</sup> Furthermore, AEP guidance states:

"[F]or evaluating projects with a post 2020 horizon, the threshold will need to be revised based on a new gap analysis that would examine 17 development and reduction potentials out to the next GHG reduction milestone."<sup>17</sup>

As it is currently June 2023, thresholds for 2020 are not applicable to the proposed Project and should be revised to reflect the current GHG reduction target. As such, the SCAQMD bright-line threshold of 3,000 MT CO<sub>2</sub>e/year is outdated and inapplicable to the proposed Project, and the AQ & GHG Study's less-than-significant GHG impact conclusion should not be relied upon. Instead, we recommend that the Project apply the SCAQMD 2035 service population efficiency target of 3.0 metric tons of carbon dioxide equivalents per service population per year ("MT CO<sub>2</sub>e/SP/year"), which was calculated by applying a 40% reduction to the 2020 targets.<sup>18</sup>

### *3) Failure to Identify a Potentially Significant GHG Impact*

In an effort to quantitatively evaluate the Project's GHG emissions, we compared the Project's GHG emissions, as estimated by the AQ & GHG Study, to the SCAQMD 2035 efficiency target of 3.0 MT

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<sup>16</sup> "Health & Safety Code 38550." California State Legislature, January 2007, *available at*:

[https://leginfo.ca.gov/faces/codes\\_displaySection.xhtml?lawCode=HSC&sectionNum=38550](https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=38550).

<sup>17</sup> "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at*:

[https://califaep.org/docs/AEP-2016\\_Final\\_White\\_Paper.pdf](https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf), p. 39.

<sup>18</sup> "Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15." SCAQMD, September 2010, *available at*: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf), p. 2.

CO<sub>2</sub>e/SP/year. When applying this threshold, the Project’s incorrect and unsubstantiated air model indicates a potentially significant GHG impact.

As previously stated, the AQ & GHG Study estimates that the Project would generate net annual GHG emissions of 2,503 MT CO<sub>2</sub>e/year (p. 9, Table 7). According to CAPCOA’s *CEQA & Climate Change* report, a service population (“SP”) is defined as “the sum of the number of residents and the number of jobs supported by the project.”<sup>19</sup> The CalEEMod output files, provided in Attachment 1 to the AQ & GHG Study, indicate that the Project would include a population of 633 for the residential land uses. Furthermore, according to the *Employment Density Study Summary Report* completed by the Southern California Association of Governments (“SCAG”), the project would support approximately 22 employees.<sup>20, 21</sup> Thus, we estimate an SP of 655 people. When dividing the Project’s net annual GHG emissions, as estimated by the AQ & GHG Study, by an SP of 655 people, we find that the Project would emit approximately 3.8 MT CO<sub>2</sub>e/SP/year (see table below).<sup>22</sup>

Project Greenhouse Gas Emissions	
Annual Emissions (MT CO <sub>2</sub> e/year)	2,503
Service Population	655
Service Population Efficiency (MT CO <sub>2</sub> e/SP/year)	3.8
SCAQMD 2035 Target	3.0
Exceeds?	Yes

As demonstrated above, the Project’s service population efficiency value exceeds the SCAQMD 2035 efficiency target of 3.8 MT CO<sub>2</sub>e/SP/year, indicating a potentially significant impact not previously identified or addressed by the AQ & GHG Study. As a result, the AQ & GHG Study’s less-than-significant GHG impact conclusion should not be relied upon. A full CEQA analysis should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project’s GHG emissions to less-than-significant levels.

## Mitigation

### Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project would result in potentially significant air quality and GHG impacts that should be mitigated further. In an effort to reduce the Project’s emissions, we recommend

<sup>19</sup> “CEQA & Climate Change.” California Air Pollution Control Officers Association (CAPCOA), January 2008, available at: <http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf>, p. 71-72.

<sup>20</sup> Calculated: (15,800-SF strip-mall) / (730-SF per one employee other retail in Los Angeles County) = ~22 employees.

<sup>21</sup> “Employment Density Study Summary Report.” Southern California Association of Governments (SCAG), October 2001, available at: <https://docplayer.net/30300085-Employment-density-study-summary-report-october-31-prepared-for-southern-california-association-of-governments.html>, p. 4.

<sup>22</sup> Calculated: (2,503 MT CO<sub>2</sub>e/year) / (655 service population) = (3.8 MT CO<sub>2</sub>e/SP/year).

consideration of SCAG’s 2020 RTP/SCS PEIR’s Air Quality Project Level Mitigation Measures (“PMM-AQ-1”) and Greenhouse Gas Project Level Mitigation Measures (“PMM-GHG-1”), as described below:<sup>23</sup>

<b>SCAG RTP/SCS 2020-2045</b>	
<p align="center"><b>Air Quality Project Level Mitigation Measures – PMM-AQ-1:</b></p> <p align="center">In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>	
a) Minimize land disturbance.	
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.	
c) Cover trucks when hauling dirt.	
d) Stabilize the surface of dirt piles if not removed immediately.	
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.	
f) Minimize unnecessary vehicular and machinery activities.	
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.	
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.	
j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.	
k) Ensure that all construction equipment is properly tuned and maintained.	
l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.	
m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.	
n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.	
o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.	

<sup>23</sup> “4.0 Mitigation Measures.” Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: [https://scag.ca.gov/sites/main/files/file-attachments/fpeir\\_connectsocial\\_addendum\\_4\\_mitigationmeasures.pdf?1606004420](https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocial_addendum_4_mitigationmeasures.pdf?1606004420), p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: “Certified Final Connect SoCal Program Environmental Impact Report.” Southern California Association of Governments (SCAG), May 2020, available at: <https://scag.ca.gov/peir>.

p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.
r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
<p style="text-align: center;"><b>Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1</b></p> <p style="text-align: center;">In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>
b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.
c) Include off-site measures to mitigate a project's emissions.
<p>d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:</p> <ul style="list-style-type: none"> <li>i. Use energy and fuel-efficient vehicles and equipment;</li> <li>ii. Deployment of zero- and/or near zero emission technologies;</li> <li>iii. Use lighting systems that are energy efficient, such as LED technology;</li> <li>iv. Use the minimum feasible amount of GHG-emitting construction materials;</li> <li>v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;</li> <li>vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;</li> <li>vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy;</li> <li>viii. Incorporate design measures to reduce water consumption;</li> <li>ix. Use lighter-colored pavement where feasible;</li> <li>x. Recycle construction debris to maximum extent feasible;</li> <li>xi. Plant shade trees in or near construction projects where feasible; and</li> <li>xii. Solicit bids that include concepts listed above.</li> </ul>
<p>e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:</p> <ul style="list-style-type: none"> <li>i. Promote transit-active transportation coordinated strategies;</li> <li>ii. Increase bicycle carrying capacity on transit and rail vehicles;</li> </ul>

<ul style="list-style-type: none"> <li>iii. Improve or increase access to transit;</li> <li>iv. Increase access to common goods and services, such as groceries, schools, and day care;</li> <li>v. Incorporate affordable housing into the project;</li> <li>vi. Incorporate the neighborhood electric vehicle network;</li> <li>vii. Orient the project toward transit, bicycle and pedestrian facilities;</li> <li>viii. Improve pedestrian or bicycle networks, or transit service;</li> <li>ix. Provide traffic calming measures;</li> <li>x. Provide bicycle parking;</li> <li>xi. Limit or eliminate park supply;</li> <li>xii. Unbundle parking costs;</li> <li>xiii. Provide parking cash-out programs;</li> <li>xiv. Implement or provide access to commute reduction program;</li> </ul>
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
<p>h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:</p> <ul style="list-style-type: none"> <li>i. Provide car-sharing, bike sharing, and ride-sharing programs;</li> <li>ii. Provide transit passes;</li> <li>iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;</li> <li>iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;</li> <li>v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;</li> <li>vi. Provide employee transportation coordinators at employment sites;</li> <li>vii. Provide a guaranteed ride home service to users of non-auto modes.</li> </ul>
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
<p>j) Land use siting and design measures that reduce GHG emissions, including:</p> <ul style="list-style-type: none"> <li>i. Developing on infill and brownfields sites;</li> <li>ii. Building compact and mixed-use developments near transit;</li> <li>iii. Retaining on-site mature trees and vegetation, and planting new canopy trees;</li> <li>iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and</li> <li>v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.</li> </ul>
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.

m) Encourage telecommuting and alternative work schedules, such as: <ul style="list-style-type: none"> <li>i. Staggered starting times</li> <li>ii. Flexible schedules</li> <li>iii. Compressed work weeks</li> </ul>
n) Implement commute trip reduction marketing, such as: <ul style="list-style-type: none"> <li>i. New employee orientation of trip reduction and alternative mode options</li> <li>ii. Event promotions</li> <li>iii. Publications</li> </ul>
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: <ul style="list-style-type: none"> <li>i. Explicitly charging for parking for its employees;</li> <li>ii. Implementing above market rate pricing;</li> <li>iii. Validating parking only for invited guests;</li> <li>iv. Not providing employee parking and transportation allowances; and</li> <li>v. Educating employees about available alternatives.</li> </ul>

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation.

Furthermore, as it is policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045, we emphasize the applicability of incorporating solar power system into the Project design. Until the feasibility of incorporating on-site renewable energy production is considered, the Project should not be approved.

A full CEQA analysis should be prepared to include all feasible mitigation measures, as well as include updated air quality and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The CEQA analysis should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

## Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or

otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink, appearing to read "Matt Hagemann".

Matt Hagemann, P.G., C.Hg.

A handwritten signature in blue ink, appearing to read "Paul Rosenfeld".

Paul E. Rosenfeld, Ph.D.

Attachment A: Updated CalEEMod Output Files  
Attachment B: Matt Hagemann CV  
Attachment C: Paul Rosenfeld CV

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7115 Van Nuys Boulevard  
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	214.00	Dwelling Unit	1.08	178,258.00	612
Enclosed Parking with Elevator	70.56	1000sqft	0.00	70,560.00	0
Unenclosed Parking with Elevator	19.47	1000sqft	0.00	19,470.00	0
Strip Mall	15.80	1000sqft	0.00	15,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	12			Operational Year	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW hr)	691.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with Exemption's model.

Land Use - Consistent with information in the AQ Study.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	214,000.00	178,258.00
tblLandUse	LotAcreage	5.63	1.08
tblLandUse	LotAcreage	1.62	0.00
tblLandUse	LotAcreage	0.45	0.00
tblLandUse	LotAcreage	0.36	0.00

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1275	0.8806	1.0823	2.4800e-003	0.1282	0.0379	0.1661	0.0387	0.0362	0.0749	0.0000	219.2557	219.2557	0.0244	7.0200e-003	221.9570
2023	0.7713	0.8122	1.1778	2.8100e-003	0.1379	0.0319	0.1698	0.0369	0.0307	0.0677	0.0000	248.0803	248.0803	0.0232	8.4300e-003	251.1708
Maximum	0.7713	0.8806	1.1778	2.8100e-003	0.1379	0.0379	0.1698	0.0387	0.0362	0.0749	0.0000	248.0803	248.0803	0.0244	8.4300e-003	251.1708

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1275	0.8806	1.0823	2.4800e-003	0.1282	0.0379	0.1661	0.0387	0.0362	0.0749	0.0000	219.2556	219.2556	0.0244	7.0200e-003	221.9569
2023	0.7713	0.8122	1.1778	2.8100e-003	0.1379	0.0319	0.1698	0.0369	0.0307	0.0677	0.0000	248.0802	248.0802	0.0232	8.4300e-003	251.1707
Maximum	0.7713	0.8806	1.1778	2.8100e-003	0.1379	0.0379	0.1698	0.0387	0.0362	0.0749	0.0000	248.0802	248.0802	0.0244	8.4300e-003	251.1707

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-26-2022	10-25-2022	0.5841	0.5841
2	10-26-2022	1-25-2023	0.5632	0.5632
3	1-26-2023	4-25-2023	0.5144	0.5144
4	4-26-2023	7-25-2023	0.9250	0.9250
		Highest	0.9250	0.9250

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5388	0.0809	3.5677	3.5900e-003		0.2166	0.2166		0.2166	0.2166	22.7309	47.2885	70.0194	0.0713	1.5400e-003	72.2605
Energy	0.0126	0.1073	0.0462	6.8000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	580.0134	580.0134	0.0241	4.9100e-003	582.0802
Mobile	0.8433	0.9269	8.3688	0.0178	1.8791	0.0132	1.8923	0.5013	0.0122	0.5136	0.0000	1,648.0736	1,648.0736	0.1180	0.0739	1,673.0312
Waste						0.0000	0.0000		0.0000	0.0000	23.3501	0.0000	23.3501	1.3800	0.0000	57.8488
Water						0.0000	0.0000		0.0000	0.0000	4.7948	94.9220	99.7168	0.4970	0.0122	115.7703
<b>Total</b>	<b>2.3946</b>	<b>1.1151</b>	<b>11.9827</b>	<b>0.0221</b>	<b>1.8791</b>	<b>0.2384</b>	<b>2.1176</b>	<b>0.5013</b>	<b>0.2375</b>	<b>0.7388</b>	<b>50.8757</b>	<b>2,370.2976</b>	<b>2,421.1733</b>	<b>2.0903</b>	<b>0.0925</b>	<b>2,500.9910</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5388	0.0809	3.5677	3.5900e-003		0.2166	0.2166		0.2166	0.2166	22.7309	47.2885	70.0194	0.0713	1.5400e-003	72.2605
Energy	0.0126	0.1073	0.0462	6.8000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	580.0134	580.0134	0.0241	4.9100e-003	582.0802
Mobile	0.8433	0.9269	8.3688	0.0178	1.8791	0.0132	1.8923	0.5013	0.0122	0.5136	0.0000	1,648.0736	1,648.0736	0.1180	0.0739	1,673.0312
Waste						0.0000	0.0000		0.0000	0.0000	23.3501	0.0000	23.3501	1.3800	0.0000	57.8488
Water						0.0000	0.0000		0.0000	0.0000	4.7948	94.9220	99.7168	0.4970	0.0122	115.7703
<b>Total</b>	<b>2.3946</b>	<b>1.1151</b>	<b>11.9827</b>	<b>0.0221</b>	<b>1.8791</b>	<b>0.2384</b>	<b>2.1176</b>	<b>0.5013</b>	<b>0.2375</b>	<b>0.7388</b>	<b>50.8757</b>	<b>2,370.2976</b>	<b>2,421.1733</b>	<b>2.0903</b>	<b>0.0925</b>	<b>2,500.9910</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/26/2022	8/22/2022	5	20	
2	Site Preparation	Site Preparation	8/23/2022	8/24/2022	5	2	
3	Grading	Grading	8/25/2022	8/30/2022	5	4	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

4	Building Construction	Building Construction	8/31/2022	6/6/2023	5	200
5	Paving	Paving	6/7/2023	6/20/2023	5	10
6	Architectural Coating	Architectural Coating	6/21/2023	7/4/2023	5	10

**Acres of Grading (Site Preparation Phase): 1.88****Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 360,972; Residential Outdoor: 120,324; Non-Residential Indoor: 23,700; Non-Residential Outdoor: 7,900; Striped Parking Area: 5,402 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

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Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	197.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction****3.2 Demolition - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
<b>Total</b>	<b>0.0169</b>	<b>0.1662</b>	<b>0.1396</b>	<b>2.4000e-004</b>		<b>8.3800e-003</b>	<b>8.3800e-003</b>		<b>7.8300e-003</b>	<b>7.8300e-003</b>	<b>0.0000</b>	<b>21.0777</b>	<b>21.0777</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>21.2120</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
<b>Total</b>	<b>4.5000e-004</b>	<b>3.7000e-004</b>	<b>4.8200e-003</b>	<b>1.0000e-005</b>	<b>1.4200e-003</b>	<b>1.0000e-005</b>	<b>1.4300e-003</b>	<b>3.8000e-004</b>	<b>1.0000e-005</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>1.1716</b>	<b>1.1716</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.1820</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
<b>Total</b>	<b>0.0169</b>	<b>0.1662</b>	<b>0.1396</b>	<b>2.4000e-004</b>		<b>8.3800e-003</b>	<b>8.3800e-003</b>		<b>7.8300e-003</b>	<b>7.8300e-003</b>	<b>0.0000</b>	<b>21.0777</b>	<b>21.0777</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>21.2119</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.7000e-004	4.8200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1716	1.1716	3.0000e-005	3.0000e-005	1.1820
<b>Total</b>	<b>4.5000e-004</b>	<b>3.7000e-004</b>	<b>4.8200e-003</b>	<b>1.0000e-005</b>	<b>1.4200e-003</b>	<b>1.0000e-005</b>	<b>1.4300e-003</b>	<b>3.8000e-004</b>	<b>1.0000e-005</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>1.1716</b>	<b>1.1716</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.1820</b>

**3.3 Site Preparation - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0146	7.0900e-003	2.0000e-005		6.2000e-004	6.2000e-004		5.7000e-004	5.7000e-004	0.0000	1.5115	1.5115	4.9000e-004	0.0000	1.5238
<b>Total</b>	<b>1.3100e-003</b>	<b>0.0146</b>	<b>7.0900e-003</b>	<b>2.0000e-005</b>	<b>6.2700e-003</b>	<b>6.2000e-004</b>	<b>6.8900e-003</b>	<b>3.0000e-003</b>	<b>5.7000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.5115</b>	<b>1.5115</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>1.5238</b>

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	3.0000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0721	0.0721	0.0000	0.0000	0.0727
<b>Total</b>	<b>3.0000e-005</b>	<b>2.0000e-005</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0721</b>	<b>0.0721</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0727</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0146	7.0900e-003	2.0000e-005		6.2000e-004	6.2000e-004		5.7000e-004	5.7000e-004	0.0000	1.5115	1.5115	4.9000e-004	0.0000	1.5238
<b>Total</b>	<b>1.3100e-003</b>	<b>0.0146</b>	<b>7.0900e-003</b>	<b>2.0000e-005</b>	<b>6.2700e-003</b>	<b>6.2000e-004</b>	<b>6.8900e-003</b>	<b>3.0000e-003</b>	<b>5.7000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.5115</b>	<b>1.5115</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>1.5238</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Site Preparation - 2022****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	3.0000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0721	0.0721	0.0000	0.0000	0.0727
<b>Total</b>	<b>3.0000e-005</b>	<b>2.0000e-005</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0721</b>	<b>0.0721</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0727</b>

**3.4 Grading - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
<b>Total</b>	<b>3.0800e-003</b>	<b>0.0340</b>	<b>0.0184</b>	<b>4.0000e-005</b>	<b>0.0142</b>	<b>1.4800e-003</b>	<b>0.0157</b>	<b>6.8500e-003</b>	<b>1.3700e-003</b>	<b>8.2200e-003</b>	<b>0.0000</b>	<b>3.6205</b>	<b>3.6205</b>	<b>1.1700e-003</b>	<b>0.0000</b>	<b>3.6498</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	6.0000e-005	7.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1803	0.1803	1.0000e-005	0.0000	0.1819
<b>Total</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.1803</b>	<b>0.1803</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1819</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
<b>Total</b>	<b>3.0800e-003</b>	<b>0.0340</b>	<b>0.0184</b>	<b>4.0000e-005</b>	<b>0.0142</b>	<b>1.4800e-003</b>	<b>0.0157</b>	<b>6.8500e-003</b>	<b>1.3700e-003</b>	<b>8.2200e-003</b>	<b>0.0000</b>	<b>3.6205</b>	<b>3.6205</b>	<b>1.1700e-003</b>	<b>0.0000</b>	<b>3.6498</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	6.0000e-005	7.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1803	0.1803	1.0000e-005	0.0000	0.1819
<b>Total</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.1803</b>	<b>0.1803</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1819</b>

**3.5 Building Construction - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0725	0.5501	0.5600	9.7000e-004		0.0259	0.0259		0.0250	0.0250	0.0000	79.8938	79.8938	0.0139	0.0000	80.2417
<b>Total</b>	<b>0.0725</b>	<b>0.5501</b>	<b>0.5600</b>	<b>9.7000e-004</b>		<b>0.0259</b>	<b>0.0259</b>		<b>0.0250</b>	<b>0.0250</b>	<b>0.0000</b>	<b>79.8938</b>	<b>79.8938</b>	<b>0.0139</b>	<b>0.0000</b>	<b>80.2417</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.0905	0.0300	3.4000e-004	0.0111	8.2000e-004	0.0119	3.2000e-003	7.9000e-004	3.9900e-003	0.0000	33.6086	33.6086	1.1200e-003	4.8500e-003	35.0813
Worker	0.0297	0.0247	0.3214	8.5000e-004	0.0950	6.2000e-004	0.0956	0.0252	5.7000e-004	0.0258	0.0000	78.1196	78.1196	2.2400e-003	2.1400e-003	78.8119
<b>Total</b>	<b>0.0331</b>	<b>0.1152</b>	<b>0.3514</b>	<b>1.1900e-003</b>	<b>0.1061</b>	<b>1.4400e-003</b>	<b>0.1075</b>	<b>0.0284</b>	<b>1.3600e-003</b>	<b>0.0298</b>	<b>0.0000</b>	<b>111.7282</b>	<b>111.7282</b>	<b>3.3600e-003</b>	<b>6.9900e-003</b>	<b>113.8932</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0725	0.5501	0.5600	9.7000e-004		0.0259	0.0259		0.0250	0.0250	0.0000	79.8938	79.8938	0.0139	0.0000	80.2416
<b>Total</b>	<b>0.0725</b>	<b>0.5501</b>	<b>0.5600</b>	<b>9.7000e-004</b>		<b>0.0259</b>	<b>0.0259</b>		<b>0.0250</b>	<b>0.0250</b>	<b>0.0000</b>	<b>79.8938</b>	<b>79.8938</b>	<b>0.0139</b>	<b>0.0000</b>	<b>80.2416</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.0905	0.0300	3.4000e-004	0.0111	8.2000e-004	0.0119	3.2000e-003	7.9000e-004	3.9900e-003	0.0000	33.6086	33.6086	1.1200e-003	4.8500e-003	35.0813
Worker	0.0297	0.0247	0.3214	8.5000e-004	0.0950	6.2000e-004	0.0956	0.0252	5.7000e-004	0.0258	0.0000	78.1196	78.1196	2.2400e-003	2.1400e-003	78.8119
<b>Total</b>	<b>0.0331</b>	<b>0.1152</b>	<b>0.3514</b>	<b>1.1900e-003</b>	<b>0.1061</b>	<b>1.4400e-003</b>	<b>0.1075</b>	<b>0.0284</b>	<b>1.3600e-003</b>	<b>0.0298</b>	<b>0.0000</b>	<b>111.7282</b>	<b>111.7282</b>	<b>3.3600e-003</b>	<b>6.9900e-003</b>	<b>113.8932</b>

**3.5 Building Construction - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0853	0.6558	0.7062	1.2400e-003		0.0288	0.0288		0.0278	0.0278	0.0000	101.6955	101.6955	0.0173	0.0000	102.1272
<b>Total</b>	<b>0.0853</b>	<b>0.6558</b>	<b>0.7062</b>	<b>1.2400e-003</b>		<b>0.0288</b>	<b>0.0288</b>		<b>0.0278</b>	<b>0.0278</b>	<b>0.0000</b>	<b>101.6955</b>	<b>101.6955</b>	<b>0.0173</b>	<b>0.0000</b>	<b>102.1272</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0903	0.0338	4.2000e-004	0.0141	4.3000e-004	0.0146	4.0700e-003	4.1000e-004	4.4900e-003	0.0000	40.7282	40.7282	1.3600e-003	5.8600e-003	42.5089
Worker	0.0350	0.0278	0.3759	1.0500e-003	0.1209	7.4000e-004	0.1216	0.0321	6.8000e-004	0.0328	0.0000	96.2259	96.2259	2.5600e-003	2.5000e-003	97.0364
<b>Total</b>	<b>0.0375</b>	<b>0.1181</b>	<b>0.4097</b>	<b>1.4700e-003</b>	<b>0.1350</b>	<b>1.1700e-003</b>	<b>0.1362</b>	<b>0.0362</b>	<b>1.0900e-003</b>	<b>0.0373</b>	<b>0.0000</b>	<b>136.9541</b>	<b>136.9541</b>	<b>3.9200e-003</b>	<b>8.3600e-003</b>	<b>139.5453</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0853	0.6558	0.7062	1.2400e-003		0.0288	0.0288		0.0278	0.0278	0.0000	101.6954	101.6954	0.0173	0.0000	102.1271
<b>Total</b>	<b>0.0853</b>	<b>0.6558</b>	<b>0.7062</b>	<b>1.2400e-003</b>		<b>0.0288</b>	<b>0.0288</b>		<b>0.0278</b>	<b>0.0278</b>	<b>0.0000</b>	<b>101.6954</b>	<b>101.6954</b>	<b>0.0173</b>	<b>0.0000</b>	<b>102.1271</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0903	0.0338	4.2000e-004	0.0141	4.3000e-004	0.0146	4.0700e-003	4.1000e-004	4.4900e-003	0.0000	40.7282	40.7282	1.3600e-003	5.8600e-003	42.5089
Worker	0.0350	0.0278	0.3759	1.0500e-003	0.1209	7.4000e-004	0.1216	0.0321	6.8000e-004	0.0328	0.0000	96.2259	96.2259	2.5600e-003	2.5000e-003	97.0364
<b>Total</b>	<b>0.0375</b>	<b>0.1181</b>	<b>0.4097</b>	<b>1.4700e-003</b>	<b>0.1350</b>	<b>1.1700e-003</b>	<b>0.1362</b>	<b>0.0362</b>	<b>1.0900e-003</b>	<b>0.0373</b>	<b>0.0000</b>	<b>136.9541</b>	<b>136.9541</b>	<b>3.9200e-003</b>	<b>8.3600e-003</b>	<b>139.5453</b>

**3.6 Paving - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>3.2200e-003</b>	<b>0.0312</b>	<b>0.0440</b>	<b>7.0000e-005</b>		<b>1.5400e-003</b>	<b>1.5400e-003</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>	<b>0.0000</b>	<b>5.8862</b>	<b>5.8862</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>5.9329</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	2.2100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5670	0.5670	2.0000e-005	1.0000e-005	0.5717
<b>Total</b>	<b>2.1000e-004</b>	<b>1.6000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.5670</b>	<b>0.5670</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.5717</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>3.2200e-003</b>	<b>0.0312</b>	<b>0.0440</b>	<b>7.0000e-005</b>		<b>1.5400e-003</b>	<b>1.5400e-003</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>	<b>0.0000</b>	<b>5.8862</b>	<b>5.8862</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>5.9329</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	2.2100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5670	0.5670	2.0000e-005	1.0000e-005	0.5717
<b>Total</b>	<b>2.1000e-004</b>	<b>1.6000e-004</b>	<b>2.2100e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.5670</b>	<b>0.5670</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.5717</b>

**3.7 Architectural Coating - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6435					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
<b>Total</b>	<b>0.6444</b>	<b>6.5100e-003</b>	<b>9.0600e-003</b>	<b>1.0000e-005</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.2785</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	6.6400e-003	2.0000e-005	2.1400e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7009	1.7009	5.0000e-005	4.0000e-005	1.7152
<b>Total</b>	<b>6.2000e-004</b>	<b>4.9000e-004</b>	<b>6.6400e-003</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>1.0000e-005</b>	<b>2.1500e-003</b>	<b>5.7000e-004</b>	<b>1.0000e-005</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>1.7009</b>	<b>1.7009</b>	<b>5.0000e-005</b>	<b>4.0000e-005</b>	<b>1.7152</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6435					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
<b>Total</b>	<b>0.6444</b>	<b>6.5100e-003</b>	<b>9.0600e-003</b>	<b>1.0000e-005</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.2785</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.9000e-004	6.6400e-003	2.0000e-005	2.1400e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7009	1.7009	5.0000e-005	4.0000e-005	1.7152
<b>Total</b>	<b>6.2000e-004</b>	<b>4.9000e-004</b>	<b>6.6400e-003</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>1.0000e-005</b>	<b>2.1500e-003</b>	<b>5.7000e-004</b>	<b>1.0000e-005</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>1.7009</b>	<b>1.7009</b>	<b>5.0000e-005</b>	<b>4.0000e-005</b>	<b>1.7152</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8433	0.9269	8.3688	0.0178	1.8791	0.0132	1.8923	0.5013	0.0122	0.5136	0.0000	1,648.0736	1,648.0736	0.1180	0.0739	1,673.0312
Unmitigated	0.8433	0.9269	8.3688	0.0178	1.8791	0.0132	1.8923	0.5013	0.0122	0.5136	0.0000	1,648.0736	1,648.0736	0.1180	0.0739	1,673.0312

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,164.16	1,050.74	875.26	3,781,713	3,781,713
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	700.26	664.23	322.79	1,219,919	1,219,919
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,864.42	1,714.97	1,198.05	5,001,632	5,001,632

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Enclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Strip Mall	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Unenclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	455.7910	455.7910	0.0217	2.6300e-003	457.1196
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	455.7910	455.7910	0.0217	2.6300e-003	457.1196
NaturalGas Mitigated	0.0126	0.1073	0.0462	6.8000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	124.2224	124.2224	2.3800e-003	2.2800e-003	124.9606
NaturalGas Unmitigated	0.0126	0.1073	0.0462	6.8000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	124.2224	124.2224	2.3800e-003	2.2800e-003	124.9606

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.30209e+006	0.0124	0.1061	0.0451	6.8000e-004		8.5800e-003	8.5800e-003		8.5800e-003	8.5800e-003	0.0000	122.8481	122.8481	2.3500e-003	2.2500e-003	123.5781
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	25754	1.4000e-004	1.2600e-003	1.0600e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3743	1.3743	3.0000e-005	3.0000e-005	1.3825
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0126</b>	<b>0.1073</b>	<b>0.0462</b>	<b>6.9000e-004</b>		<b>8.6800e-003</b>	<b>8.6800e-003</b>		<b>8.6800e-003</b>	<b>8.6800e-003</b>	<b>0.0000</b>	<b>124.2224</b>	<b>124.2224</b>	<b>2.3800e-003</b>	<b>2.2800e-003</b>	<b>124.9606</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.30209e+006	0.0124	0.1061	0.0451	6.8000e-004		8.5800e-003	8.5800e-003		8.5800e-003	8.5800e-003	0.0000	122.8481	122.8481	2.3500e-003	2.2500e-003	123.5781
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	25754	1.4000e-004	1.2600e-003	1.0600e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3743	1.3743	3.0000e-005	3.0000e-005	1.3825
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0126</b>	<b>0.1073</b>	<b>0.0462</b>	<b>6.9000e-004</b>		<b>8.6800e-003</b>	<b>8.6800e-003</b>		<b>8.6800e-003</b>	<b>8.6800e-003</b>	<b>0.0000</b>	<b>124.2224</b>	<b>124.2224</b>	<b>2.3800e-003</b>	<b>2.2800e-003</b>	<b>124.9606</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	824009	258.6374	0.0123	1.5000e- 003	259.3913
Enclosed Parking with Elevator	383846	120.4805	5.7500e- 003	7.0000e- 004	120.8317
Strip Mall	206506	64.8175	3.0900e- 003	3.7000e- 004	65.0064
Unenclosed Parking with Elevator	37771.8	11.8557	5.7000e- 004	7.0000e- 005	11.8903
<b>Total</b>		<b>455.7910</b>	<b>0.0217</b>	<b>2.6400e- 003</b>	<b>457.1196</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	824009	258.6374	0.0123	1.5000e-003	259.3913
Enclosed Parking with Elevator	383846	120.4805	5.7500e-003	7.0000e-004	120.8317
Strip Mall	206506	64.8175	3.0900e-003	3.7000e-004	65.0064
Unenclosed Parking with Elevator	37771.8	11.8557	5.7000e-004	7.0000e-005	11.8903
<b>Total</b>		<b>455.7910</b>	<b>0.0217</b>	<b>2.6400e-003</b>	<b>457.1196</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5388	0.0809	3.5677	3.5900e-003		0.2166	0.2166		0.2166	0.2166	22.7309	47.2885	70.0194	0.0713	1.5400e-003	72.2605
Unmitigated	1.5388	0.0809	3.5677	3.5900e-003		0.2166	0.2166		0.2166	0.2166	22.7309	47.2885	70.0194	0.0713	1.5400e-003	72.2605

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7071					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.7010	0.0555	1.3604	3.4700e-003		0.2043	0.2043		0.2043	0.2043	22.7309	43.6810	66.4118	0.0678	1.5400e-003	68.5663
Landscaping	0.0665	0.0254	2.2073	1.2000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	3.6076	3.6076	3.4700e-003	0.0000	3.6942
<b>Total</b>	<b>1.5388</b>	<b>0.0809</b>	<b>3.5677</b>	<b>3.5900e-003</b>		<b>0.2166</b>	<b>0.2166</b>		<b>0.2166</b>	<b>0.2166</b>	<b>22.7309</b>	<b>47.2885</b>	<b>70.0194</b>	<b>0.0713</b>	<b>1.5400e-003</b>	<b>72.2605</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7071					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.7010	0.0555	1.3604	3.4700e-003		0.2043	0.2043		0.2043	0.2043	22.7309	43.6810	66.4118	0.0678	1.5400e-003	68.5663
Landscaping	0.0665	0.0254	2.2073	1.2000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	3.6076	3.6076	3.4700e-003	0.0000	3.6942
<b>Total</b>	<b>1.5388</b>	<b>0.0809</b>	<b>3.5677</b>	<b>3.5900e-003</b>		<b>0.2166</b>	<b>0.2166</b>		<b>0.2166</b>	<b>0.2166</b>	<b>22.7309</b>	<b>47.2885</b>	<b>70.0194</b>	<b>0.0713</b>	<b>1.5400e-003</b>	<b>72.2605</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	99.7168	0.4970	0.0122	115.7703
Unmitigated	99.7168	0.4970	0.0122	115.7703

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	13.943 / 8.79013	92.0609	0.4585	0.0112	106.8715
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.17035 / 0.717309	7.6559	0.0385	9.4000e-004	8.8988
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>99.7168</b>	<b>0.4970</b>	<b>0.0122</b>	<b>115.7703</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	13.943 / 8.79013	92.0609	0.4585	0.0112	106.8715
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.17035 / 0.717309	7.6559	0.0385	9.4000e-004	8.8988
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>99.7168</b>	<b>0.4970</b>	<b>0.0122</b>	<b>115.7703</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste**

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.3501	1.3800	0.0000	57.8488
Unmitigated	23.3501	1.3800	0.0000	57.8488

**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	98.44	19.9824	1.1809	0.0000	49.5056
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	16.59	3.3676	0.1990	0.0000	8.3431
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>23.3501</b>	<b>1.3800</b>	<b>0.0000</b>	<b>57.8488</b>

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	98.44	19.9824	1.1809	0.0000	49.5056
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	16.59	3.3676	0.1990	0.0000	8.3431
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>23.3501</b>	<b>1.3800</b>	<b>0.0000</b>	<b>57.8488</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Equipment Type	Number
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**11.0 Vegetation**

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7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7115 Van Nuys Boulevard  
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	214.00	Dwelling Unit	1.08	178,258.00	612
Enclosed Parking with Elevator	70.56	1000sqft	0.00	70,560.00	0
Unenclosed Parking with Elevator	19.47	1000sqft	0.00	19,470.00	0
Strip Mall	15.80	1000sqft	0.00	15,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	12			Operational Year	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW hr)	691.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with Exemption's model.  
Land Use - Consistent with information in the AQ Study.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	214,000.00	178,258.00
tblLandUse	LotAcreage	5.63	1.08
tblLandUse	LotAcreage	1.62	0.00
tblLandUse	LotAcreage	0.45	0.00
tblLandUse	LotAcreage	0.36	0.00

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4090	17.0089	21.1518	0.0500	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,879.2698	4,879.2698	0.6482	0.1706	4,940.9158
2023	129.0073	13.6852	20.3254	0.0490	2.4582	0.5355	2.9937	0.6578	0.5164	1.1742	0.0000	4,773.0661	4,773.0661	0.4165	0.1607	4,831.3496
Maximum	129.0073	17.0089	21.1518	0.0500	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,879.2698	4,879.2698	0.6482	0.1706	4,940.9158

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4090	17.0089	21.1518	0.0500	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,879.2698	4,879.2698	0.6482	0.1706	4,940.9158
2023	129.0073	13.6852	20.3254	0.0490	2.4582	0.5355	2.9937	0.6578	0.5164	1.1742	0.0000	4,773.0661	4,773.0661	0.4165	0.1607	4,831.3496
Maximum	129.0073	17.0089	21.1518	0.0500	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,879.2698	4,879.2698	0.6482	0.1706	4,940.9158

### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

[illegible]

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Energy	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
Mobile	5.1233	4.9479	49.2954	0.1074	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,949.6235	10,949.6235	0.7401	0.4527	11,103.0391
<b>Total</b>	<b>66.0263</b>	<b>10.1796</b>	<b>176.0372</b>	<b>0.3897</b>	<b>11.1803</b>	<b>16.5695</b>	<b>27.7498</b>	<b>2.9781</b>	<b>16.5639</b>	<b>19.5420</b>	<b>2,004.5205</b>	<b>15,583.7478</b>	<b>17,588.2683</b>	<b>6.7629</b>	<b>0.6025</b>	<b>17,936.8971</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Energy	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
Mobile	5.1233	4.9479	49.2954	0.1074	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,949.6235	10,949.6235	0.7401	0.4527	11,103.0391
<b>Total</b>	<b>66.0263</b>	<b>10.1796</b>	<b>176.0372</b>	<b>0.3897</b>	<b>11.1803</b>	<b>16.5695</b>	<b>27.7498</b>	<b>2.9781</b>	<b>16.5639</b>	<b>19.5420</b>	<b>2,004.5205</b>	<b>15,583.7478</b>	<b>17,588.2683</b>	<b>6.7629</b>	<b>0.6025</b>	<b>17,936.8971</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/26/2022	8/22/2022	5	20	
2	Site Preparation	Site Preparation	8/23/2022	8/24/2022	5	2	
3	Grading	Grading	8/25/2022	8/30/2022	5	4	
4	Building Construction	Building Construction	8/31/2022	6/6/2023	5	200	
5	Paving	Paving	6/7/2023	6/20/2023	5	10	
6	Architectural Coating	Architectural Coating	6/21/2023	7/4/2023	5	10	

**Acres of Grading (Site Preparation Phase): 1.88****Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 360,972; Residential Outdoor: 120,324; Non-Residential Indoor: 23,700; Non-Residential Outdoor: 7,900; Striped Parking Area: 5,402 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20

## 7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	197.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
<b>Total</b>	<b>1.6889</b>	<b>16.6217</b>	<b>13.9605</b>	<b>0.0241</b>		<b>0.8379</b>	<b>0.8379</b>		<b>0.7829</b>	<b>0.7829</b>		<b>2,323.4168</b>	<b>2,323.4168</b>	<b>0.5921</b>		<b>2,338.2191</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
<b>Total</b>	<b>0.0450</b>	<b>0.0328</b>	<b>0.5117</b>	<b>1.3300e-003</b>	<b>0.1453</b>	<b>9.3000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.6000e-004</b>	<b>0.0394</b>		<b>134.3475</b>	<b>134.3475</b>	<b>3.6600e-003</b>	<b>3.2500e-003</b>	<b>135.4083</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
<b>Total</b>	<b>1.6889</b>	<b>16.6217</b>	<b>13.9605</b>	<b>0.0241</b>		<b>0.8379</b>	<b>0.8379</b>		<b>0.7829</b>	<b>0.7829</b>	<b>0.0000</b>	<b>2,323.4168</b>	<b>2,323.4168</b>	<b>0.5921</b>		<b>2,338.2191</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0450	0.0328	0.5117	1.3300e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		134.3475	134.3475	3.6600e-003	3.2500e-003	135.4083
<b>Total</b>	<b>0.0450</b>	<b>0.0328</b>	<b>0.5117</b>	<b>1.3300e-003</b>	<b>0.1453</b>	<b>9.3000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.6000e-004</b>	<b>0.0394</b>		<b>134.3475</b>	<b>134.3475</b>	<b>3.6600e-003</b>	<b>3.2500e-003</b>	<b>135.4083</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Site Preparation - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.3122	14.6277	7.0939	0.0172		0.6225	0.6225		0.5727	0.5727		1,666.173 8	1,666.173 8	0.5389		1,679.645 7
<b>Total</b>	<b>1.3122</b>	<b>14.6277</b>	<b>7.0939</b>	<b>0.0172</b>	<b>6.2662</b>	<b>0.6225</b>	<b>6.8887</b>	<b>3.0041</b>	<b>0.5727</b>	<b>3.5768</b>		<b>1,666.173 8</b>	<b>1,666.173 8</b>	<b>0.5389</b>		<b>1,679.645 7</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0277	0.0202	0.3149	8.2000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.3000e-004	0.0242		82.6754	82.6754	2.2500e-003	2.0000e-003	83.3282
<b>Total</b>	<b>0.0277</b>	<b>0.0202</b>	<b>0.3149</b>	<b>8.2000e-004</b>	<b>0.0894</b>	<b>5.7000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.3000e-004</b>	<b>0.0242</b>		<b>82.6754</b>	<b>82.6754</b>	<b>2.2500e-003</b>	<b>2.0000e-003</b>	<b>83.3282</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Site Preparation - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.3122	14.6277	7.0939	0.0172		0.6225	0.6225		0.5727	0.5727	0.0000	1,666.173 8	1,666.173 8	0.5389		1,679.645 7
<b>Total</b>	<b>1.3122</b>	<b>14.6277</b>	<b>7.0939</b>	<b>0.0172</b>	<b>6.2662</b>	<b>0.6225</b>	<b>6.8887</b>	<b>3.0041</b>	<b>0.5727</b>	<b>3.5768</b>	<b>0.0000</b>	<b>1,666.173 8</b>	<b>1,666.173 8</b>	<b>0.5389</b>		<b>1,679.645 7</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0277	0.0202	0.3149	8.2000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.3000e-004	0.0242		82.6754	82.6754	2.2500e-003	2.0000e-003	83.3282
<b>Total</b>	<b>0.0277</b>	<b>0.0202</b>	<b>0.3149</b>	<b>8.2000e-004</b>	<b>0.0894</b>	<b>5.7000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.3000e-004</b>	<b>0.0242</b>		<b>82.6754</b>	<b>82.6754</b>	<b>2.2500e-003</b>	<b>2.0000e-003</b>	<b>83.3282</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
<b>Total</b>	<b>1.5403</b>	<b>16.9836</b>	<b>9.2202</b>	<b>0.0206</b>	<b>7.0826</b>	<b>0.7423</b>	<b>7.8249</b>	<b>3.4247</b>	<b>0.6829</b>	<b>4.1076</b>		<b>1,995.4825</b>	<b>1,995.4825</b>	<b>0.6454</b>		<b>2,011.6169</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0253	0.3936	1.0200e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		103.3442	103.3442	2.8200e-003	2.5000e-003	104.1603
<b>Total</b>	<b>0.0346</b>	<b>0.0253</b>	<b>0.3936</b>	<b>1.0200e-003</b>	<b>0.1118</b>	<b>7.2000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.6000e-004</b>	<b>0.0303</b>		<b>103.3442</b>	<b>103.3442</b>	<b>2.8200e-003</b>	<b>2.5000e-003</b>	<b>104.1603</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
<b>Total</b>	<b>1.5403</b>	<b>16.9836</b>	<b>9.2202</b>	<b>0.0206</b>	<b>7.0826</b>	<b>0.7423</b>	<b>7.8249</b>	<b>3.4247</b>	<b>0.6829</b>	<b>4.1076</b>	<b>0.0000</b>	<b>1,995.4825</b>	<b>1,995.4825</b>	<b>0.6454</b>		<b>2,011.6169</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0253	0.3936	1.0200e-003	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		103.3442	103.3442	2.8200e-003	2.5000e-003	104.1603
<b>Total</b>	<b>0.0346</b>	<b>0.0253</b>	<b>0.3936</b>	<b>1.0200e-003</b>	<b>0.1118</b>	<b>7.2000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.6000e-004</b>	<b>0.0303</b>		<b>103.3442</b>	<b>103.3442</b>	<b>2.8200e-003</b>	<b>2.5000e-003</b>	<b>104.1603</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>		<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0787	1.9594	0.6718	7.8300e-003	0.2562	0.0187	0.2749	0.0738	0.0179	0.0916		841.8464	841.8464	0.0281	0.1213	878.7006
Worker	0.6816	0.4976	7.7536	0.0201	2.2020	0.0141	2.2161	0.5840	0.0130	0.5970		2,035.8806	2,035.8806	0.0555	0.0493	2,051.9572
<b>Total</b>	<b>0.7603</b>	<b>2.4570</b>	<b>8.4254</b>	<b>0.0280</b>	<b>2.4582</b>	<b>0.0328</b>	<b>2.4910</b>	<b>0.6578</b>	<b>0.0308</b>	<b>0.6886</b>		<b>2,877.7270</b>	<b>2,877.7270</b>	<b>0.0836</b>	<b>0.1706</b>	<b>2,930.6578</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>	<b>0.0000</b>	<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0787	1.9594	0.6718	7.8300e-003	0.2562	0.0187	0.2749	0.0738	0.0179	0.0916		841.8464	841.8464	0.0281	0.1213	878.7006
Worker	0.6816	0.4976	7.7536	0.0201	2.2020	0.0141	2.2161	0.5840	0.0130	0.5970		2,035.8806	2,035.8806	0.0555	0.0493	2,051.9572
<b>Total</b>	<b>0.7603</b>	<b>2.4570</b>	<b>8.4254</b>	<b>0.0280</b>	<b>2.4582</b>	<b>0.0328</b>	<b>2.4910</b>	<b>0.6578</b>	<b>0.0308</b>	<b>0.6886</b>		<b>2,877.7270</b>	<b>2,877.7270</b>	<b>0.0836</b>	<b>0.1706</b>	<b>2,930.6578</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
<b>Total</b>	<b>1.5233</b>	<b>11.7104</b>	<b>12.6111</b>	<b>0.0221</b>		<b>0.5145</b>	<b>0.5145</b>		<b>0.4968</b>	<b>0.4968</b>		<b>2,001.7877</b>	<b>2,001.7877</b>	<b>0.3399</b>		<b>2,010.2858</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0461	1.5353	0.5948	7.4400e-003	0.2562	7.7200e-003	0.2639	0.0738	7.3800e-003	0.0812		801.1299	801.1299	0.0269	0.1152	836.1244
Worker	0.6304	0.4395	7.1196	0.0195	2.2020	0.0133	2.2152	0.5840	0.0122	0.5962		1,970.1485	1,970.1485	0.0497	0.0455	1,984.9394
<b>Total</b>	<b>0.6765</b>	<b>1.9748</b>	<b>7.7144</b>	<b>0.0269</b>	<b>2.4582</b>	<b>0.0210</b>	<b>2.4792</b>	<b>0.6578</b>	<b>0.0196</b>	<b>0.6773</b>		<b>2,771.2784</b>	<b>2,771.2784</b>	<b>0.0765</b>	<b>0.1607</b>	<b>2,821.0638</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
<b>Total</b>	<b>1.5233</b>	<b>11.7104</b>	<b>12.6111</b>	<b>0.0221</b>		<b>0.5145</b>	<b>0.5145</b>		<b>0.4968</b>	<b>0.4968</b>	<b>0.0000</b>	<b>2,001.7877</b>	<b>2,001.7877</b>	<b>0.3399</b>		<b>2,010.2858</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0461	1.5353	0.5948	7.4400e-003	0.2562	7.7200e-003	0.2639	0.0738	7.3800e-003	0.0812		801.1299	801.1299	0.0269	0.1152	836.1244
Worker	0.6304	0.4395	7.1196	0.0195	2.2020	0.0133	2.2152	0.5840	0.0122	0.5962		1,970.1485	1,970.1485	0.0497	0.0455	1,984.9394
<b>Total</b>	<b>0.6765</b>	<b>1.9748</b>	<b>7.7144</b>	<b>0.0269</b>	<b>2.4582</b>	<b>0.0210</b>	<b>2.4792</b>	<b>0.6578</b>	<b>0.0196</b>	<b>0.6773</b>		<b>2,771.2784</b>	<b>2,771.2784</b>	<b>0.0765</b>	<b>0.1607</b>	<b>2,821.0638</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6446</b>	<b>6.2357</b>	<b>8.8024</b>	<b>0.0136</b>		<b>0.3084</b>	<b>0.3084</b>		<b>0.2846</b>	<b>0.2846</b>		<b>1,297.688 0</b>	<b>1,297.688 0</b>	<b>0.4114</b>		<b>1,307.972 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
<b>Total</b>	<b>0.0416</b>	<b>0.0290</b>	<b>0.4698</b>	<b>1.2900e-003</b>	<b>0.1453</b>	<b>8.7000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.0000e-004</b>	<b>0.0393</b>		<b>130.0098</b>	<b>130.0098</b>	<b>3.2800e-003</b>	<b>3.0000e-003</b>	<b>130.9859</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6446</b>	<b>6.2357</b>	<b>8.8024</b>	<b>0.0136</b>		<b>0.3084</b>	<b>0.3084</b>		<b>0.2846</b>	<b>0.2846</b>	<b>0.0000</b>	<b>1,297.688 0</b>	<b>1,297.688 0</b>	<b>0.4114</b>		<b>1,307.972 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0416	0.0290	0.4698	1.2900e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		130.0098	130.0098	3.2800e-003	3.0000e-003	130.9859
<b>Total</b>	<b>0.0416</b>	<b>0.0290</b>	<b>0.4698</b>	<b>1.2900e-003</b>	<b>0.1453</b>	<b>8.7000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.0000e-004</b>	<b>0.0393</b>		<b>130.0098</b>	<b>130.0098</b>	<b>3.2800e-003</b>	<b>3.0000e-003</b>	<b>130.9859</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.6908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>128.8824</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1248	0.0870	1.4095	3.8600e-003	0.4359	2.6200e-003	0.4386	0.1156	2.4100e-003	0.1180		390.0294	390.0294	9.8300e-003	9.0000e-003	392.9575
<b>Total</b>	<b>0.1248</b>	<b>0.0870</b>	<b>1.4095</b>	<b>3.8600e-003</b>	<b>0.4359</b>	<b>2.6200e-003</b>	<b>0.4386</b>	<b>0.1156</b>	<b>2.4100e-003</b>	<b>0.1180</b>		<b>390.0294</b>	<b>390.0294</b>	<b>9.8300e-003</b>	<b>9.0000e-003</b>	<b>392.9575</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.6908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>128.8824</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1248	0.0870	1.4095	3.8600e-003	0.4359	2.6200e-003	0.4386	0.1156	2.4100e-003	0.1180		390.0294	390.0294	9.8300e-003	9.0000e-003	392.9575
<b>Total</b>	<b>0.1248</b>	<b>0.0870</b>	<b>1.4095</b>	<b>3.8600e-003</b>	<b>0.4359</b>	<b>2.6200e-003</b>	<b>0.4386</b>	<b>0.1156</b>	<b>2.4100e-003</b>	<b>0.1180</b>		<b>390.0294</b>	<b>390.0294</b>	<b>9.8300e-003</b>	<b>9.0000e-003</b>	<b>392.9575</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.1233	4.9479	49.2954	0.1074	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,949.6235	10,949.6235	0.7401	0.4527	11,103.0391
Unmitigated	5.1233	4.9479	49.2954	0.1074	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,949.6235	10,949.6235	0.7401	0.4527	11,103.0391

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,164.16	1,050.74	875.26	3,781,713	3,781,713
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	700.26	664.23	322.79	1,219,919	1,219,919
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,864.42	1,714.97	1,198.05	5,001,632	5,001,632

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Enclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Strip Mall	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Unenclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
NaturalGas Unmitigated	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6307.08	0.0680	0.5812	0.2473	3.7100e-003		0.0470	0.0470		0.0470	0.0470		742.0099	742.0099	0.0142	0.0136	746.4193
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	70.5589	7.6000e-004	6.9200e-003	5.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3011	8.3011	1.6000e-004	1.5000e-004	8.3504
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0688</b>	<b>0.5882</b>	<b>0.2532</b>	<b>3.7500e-003</b>		<b>0.0475</b>	<b>0.0475</b>		<b>0.0475</b>	<b>0.0475</b>		<b>750.3110</b>	<b>750.3110</b>	<b>0.0144</b>	<b>0.0138</b>	<b>754.7697</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6.30708	0.0680	0.5812	0.2473	3.7100e-003		0.0470	0.0470		0.0470	0.0470		742.0099	742.0099	0.0142	0.0136	746.4193
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0705589	7.6000e-004	6.9200e-003	5.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3011	8.3011	1.6000e-004	1.5000e-004	8.3504
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0688</b>	<b>0.5882</b>	<b>0.2532</b>	<b>3.7500e-003</b>		<b>0.0475</b>	<b>0.0475</b>		<b>0.0475</b>	<b>0.0475</b>		<b>750.3110</b>	<b>750.3110</b>	<b>0.0144</b>	<b>0.0138</b>	<b>754.7697</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Unmitigated	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	56.0757	4.4401	108.8301	0.2776		16.3471	16.3471		16.3471	16.3471	2,004.5205	3,852.0000	5,856.5205	5.9779	0.1361	6,046.5109
Landscaping	0.5316	0.2034	17.6586	9.3000e-004		0.0979	0.0979		0.0979	0.0979		31.8134	31.8134	0.0306		32.5774
<b>Total</b>	<b>60.8342</b>	<b>4.6436</b>	<b>126.4887</b>	<b>0.2786</b>		<b>16.4450</b>	<b>16.4450</b>		<b>16.4450</b>	<b>16.4450</b>	<b>2,004.5205</b>	<b>3,883.8134</b>	<b>5,888.3339</b>	<b>6.0084</b>	<b>0.1361</b>	<b>6,079.0883</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	56.0757	4.4401	108.8301	0.2776		16.3471	16.3471		16.3471	16.3471	2,004.5205	3,852.0000	5,856.5205	5.9779	0.1361	6,046.5109
Landscaping	0.5316	0.2034	17.6586	9.3000e-004		0.0979	0.0979		0.0979	0.0979		31.8134	31.8134	0.0306		32.5774
<b>Total</b>	<b>60.8342</b>	<b>4.6436</b>	<b>126.4887</b>	<b>0.2786</b>		<b>16.4450</b>	<b>16.4450</b>		<b>16.4450</b>	<b>16.4450</b>	<b>2,004.5205</b>	<b>3,883.8134</b>	<b>5,888.3339</b>	<b>6.0084</b>	<b>0.1361</b>	<b>6,079.0883</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

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8.1 Mitigation Measures Waste

9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7115 Van Nuys Boulevard  
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	214.00	Dwelling Unit	1.08	178,258.00	612
Enclosed Parking with Elevator	70.56	1000sqft	0.00	70,560.00	0
Unenclosed Parking with Elevator	19.47	1000sqft	0.00	19,470.00	0
Strip Mall	15.80	1000sqft	0.00	15,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	12			Operational Year	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with Exemption's model.  
Land Use - Consistent with information in the AQ Study.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	214,000.00	178,258.00
tblLandUse	LotAcreage	5.63	1.08
tblLandUse	LotAcreage	1.62	0.00
tblLandUse	LotAcreage	0.45	0.00
tblLandUse	LotAcreage	0.36	0.00

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4561	17.0115	20.5404	0.0490	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,771.947 8	4,771.947 8	0.6482	0.1741	4,834.661 6
2023	129.0165	13.8033	19.7686	0.0480	2.4582	0.5355	2.9937	0.6578	0.5165	1.1742	0.0000	4,670.555 5	4,670.555 5	0.4170	0.1641	4,729.868 1
Maximum	129.0165	17.0115	20.5404	0.0490	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,771.947 8	4,771.947 8	0.6482	0.1741	4,834.661 6

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4561	17.0115	20.5404	0.0490	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,771.947 8	4,771.947 8	0.6482	0.1741	4,834.661 6
2023	129.0165	13.8033	19.7686	0.0480	2.4582	0.5355	2.9937	0.6578	0.5165	1.1742	0.0000	4,670.555 5	4,670.555 5	0.4170	0.1641	4,729.868 1
Maximum	129.0165	17.0115	20.5404	0.0490	7.1944	0.8388	7.9374	3.4544	0.7837	4.1379	0.0000	4,771.947 8	4,771.947 8	0.6482	0.1741	4,834.661 6

### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

[illegible]

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Energy	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
Mobile	5.0210	5.3433	48.4889	0.1028	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,488.3124	10,488.3124	0.7639	0.4730	10,648.3483
<b>Total</b>	<b>65.9239</b>	<b>10.5751</b>	<b>175.2308</b>	<b>0.3852</b>	<b>11.1803</b>	<b>16.5695</b>	<b>27.7498</b>	<b>2.9781</b>	<b>16.5640</b>	<b>19.5421</b>	<b>2,004.5205</b>	<b>15,122.4368</b>	<b>17,126.9573</b>	<b>6.7867</b>	<b>0.6228</b>	<b>17,482.2064</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Energy	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
Mobile	5.0210	5.3433	48.4889	0.1028	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,488.3124	10,488.3124	0.7639	0.4730	10,648.3483
<b>Total</b>	<b>65.9239</b>	<b>10.5751</b>	<b>175.2308</b>	<b>0.3852</b>	<b>11.1803</b>	<b>16.5695</b>	<b>27.7498</b>	<b>2.9781</b>	<b>16.5640</b>	<b>19.5421</b>	<b>2,004.5205</b>	<b>15,122.4368</b>	<b>17,126.9573</b>	<b>6.7867</b>	<b>0.6228</b>	<b>17,482.2064</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/26/2022	8/22/2022	5	20	
2	Site Preparation	Site Preparation	8/23/2022	8/24/2022	5	2	
3	Grading	Grading	8/25/2022	8/30/2022	5	4	
4	Building Construction	Building Construction	8/31/2022	6/6/2023	5	200	
5	Paving	Paving	6/7/2023	6/20/2023	5	10	
6	Architectural Coating	Architectural Coating	6/21/2023	7/4/2023	5	10	

**Acres of Grading (Site Preparation Phase): 1.88****Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 360,972; Residential Outdoor: 120,324; Non-Residential Indoor: 23,700; Non-Residential Outdoor: 7,900; Striped Parking Area: 5,402 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	197.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
<b>Total</b>	<b>1.6889</b>	<b>16.6217</b>	<b>13.9605</b>	<b>0.0241</b>		<b>0.8379</b>	<b>0.8379</b>		<b>0.7829</b>	<b>0.7829</b>		<b>2,323.4168</b>	<b>2,323.4168</b>	<b>0.5921</b>		<b>2,338.2191</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
<b>Total</b>	<b>0.0482</b>	<b>0.0363</b>	<b>0.4698</b>	<b>1.2600e-003</b>	<b>0.1453</b>	<b>9.3000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.6000e-004</b>	<b>0.0394</b>		<b>127.2444</b>	<b>127.2444</b>	<b>3.7000e-003</b>	<b>3.4800e-003</b>	<b>128.3729</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
<b>Total</b>	<b>1.6889</b>	<b>16.6217</b>	<b>13.9605</b>	<b>0.0241</b>		<b>0.8379</b>	<b>0.8379</b>		<b>0.7829</b>	<b>0.7829</b>	<b>0.0000</b>	<b>2,323.4168</b>	<b>2,323.4168</b>	<b>0.5921</b>		<b>2,338.2191</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0482	0.0363	0.4698	1.2600e-003	0.1453	9.3000e-004	0.1462	0.0385	8.6000e-004	0.0394		127.2444	127.2444	3.7000e-003	3.4800e-003	128.3729
<b>Total</b>	<b>0.0482</b>	<b>0.0363</b>	<b>0.4698</b>	<b>1.2600e-003</b>	<b>0.1453</b>	<b>9.3000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.6000e-004</b>	<b>0.0394</b>		<b>127.2444</b>	<b>127.2444</b>	<b>3.7000e-003</b>	<b>3.4800e-003</b>	<b>128.3729</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Site Preparation - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.3122	14.6277	7.0939	0.0172		0.6225	0.6225		0.5727	0.5727		1,666.173 8	1,666.173 8	0.5389		1,679.645 7
<b>Total</b>	<b>1.3122</b>	<b>14.6277</b>	<b>7.0939</b>	<b>0.0172</b>	<b>6.2662</b>	<b>0.6225</b>	<b>6.8887</b>	<b>3.0041</b>	<b>0.5727</b>	<b>3.5768</b>		<b>1,666.173 8</b>	<b>1,666.173 8</b>	<b>0.5389</b>		<b>1,679.645 7</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0296	0.0223	0.2891	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.3000e-004	0.0242		78.3043	78.3043	2.2800e-003	2.1400e-003	78.9987
<b>Total</b>	<b>0.0296</b>	<b>0.0223</b>	<b>0.2891</b>	<b>7.7000e-004</b>	<b>0.0894</b>	<b>5.7000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.3000e-004</b>	<b>0.0242</b>		<b>78.3043</b>	<b>78.3043</b>	<b>2.2800e-003</b>	<b>2.1400e-003</b>	<b>78.9987</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Site Preparation - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.3122	14.6277	7.0939	0.0172		0.6225	0.6225		0.5727	0.5727	0.0000	1,666.173 8	1,666.173 8	0.5389		1,679.645 7
<b>Total</b>	<b>1.3122</b>	<b>14.6277</b>	<b>7.0939</b>	<b>0.0172</b>	<b>6.2662</b>	<b>0.6225</b>	<b>6.8887</b>	<b>3.0041</b>	<b>0.5727</b>	<b>3.5768</b>	<b>0.0000</b>	<b>1,666.173 8</b>	<b>1,666.173 8</b>	<b>0.5389</b>		<b>1,679.645 7</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0296	0.0223	0.2891	7.7000e-004	0.0894	5.7000e-004	0.0900	0.0237	5.3000e-004	0.0242		78.3043	78.3043	2.2800e-003	2.1400e-003	78.9987
<b>Total</b>	<b>0.0296</b>	<b>0.0223</b>	<b>0.2891</b>	<b>7.7000e-004</b>	<b>0.0894</b>	<b>5.7000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.3000e-004</b>	<b>0.0242</b>		<b>78.3043</b>	<b>78.3043</b>	<b>2.2800e-003</b>	<b>2.1400e-003</b>	<b>78.9987</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
<b>Total</b>	<b>1.5403</b>	<b>16.9836</b>	<b>9.2202</b>	<b>0.0206</b>	<b>7.0826</b>	<b>0.7423</b>	<b>7.8249</b>	<b>3.4247</b>	<b>0.6829</b>	<b>4.1076</b>		<b>1,995.4825</b>	<b>1,995.4825</b>	<b>0.6454</b>		<b>2,011.6169</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0370	0.0279	0.3614	9.7000e-004	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		97.8803	97.8803	2.8500e-003	2.6700e-003	98.7483
<b>Total</b>	<b>0.0370</b>	<b>0.0279</b>	<b>0.3614</b>	<b>9.7000e-004</b>	<b>0.1118</b>	<b>7.2000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.6000e-004</b>	<b>0.0303</b>		<b>97.8803</b>	<b>97.8803</b>	<b>2.8500e-003</b>	<b>2.6700e-003</b>	<b>98.7483</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Grading - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
<b>Total</b>	<b>1.5403</b>	<b>16.9836</b>	<b>9.2202</b>	<b>0.0206</b>	<b>7.0826</b>	<b>0.7423</b>	<b>7.8249</b>	<b>3.4247</b>	<b>0.6829</b>	<b>4.1076</b>	<b>0.0000</b>	<b>1,995.4825</b>	<b>1,995.4825</b>	<b>0.6454</b>		<b>2,011.6169</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0370	0.0279	0.3614	9.7000e-004	0.1118	7.2000e-004	0.1125	0.0296	6.6000e-004	0.0303		97.8803	97.8803	2.8500e-003	2.6700e-003	98.7483
<b>Total</b>	<b>0.0370</b>	<b>0.0279</b>	<b>0.3614</b>	<b>9.7000e-004</b>	<b>0.1118</b>	<b>7.2000e-004</b>	<b>0.1125</b>	<b>0.0296</b>	<b>6.6000e-004</b>	<b>0.0303</b>		<b>97.8803</b>	<b>97.8803</b>	<b>2.8500e-003</b>	<b>2.6700e-003</b>	<b>98.7483</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>		<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0778	2.0401	0.6950	7.8400e-003	0.2562	0.0187	0.2750	0.0738	0.0179	0.0917		842.1627	842.1627	0.0280	0.1215	879.0612
Worker	0.7297	0.5498	7.1189	0.0191	2.2020	0.0141	2.2161	0.5840	0.0130	0.5970		1,928.2422	1,928.2422	0.0561	0.0527	1,945.3424
<b>Total</b>	<b>0.8074</b>	<b>2.5900</b>	<b>7.8140</b>	<b>0.0269</b>	<b>2.4582</b>	<b>0.0328</b>	<b>2.4910</b>	<b>0.6578</b>	<b>0.0309</b>	<b>0.6886</b>		<b>2,770.4049</b>	<b>2,770.4049</b>	<b>0.0842</b>	<b>0.1741</b>	<b>2,824.4036</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2022****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>	<b>0.0000</b>	<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0778	2.0401	0.6950	7.8400e-003	0.2562	0.0187	0.2750	0.0738	0.0179	0.0917		842.1627	842.1627	0.0280	0.1215	879.0612
Worker	0.7297	0.5498	7.1189	0.0191	2.2020	0.0141	2.2161	0.5840	0.0130	0.5970		1,928.2422	1,928.2422	0.0561	0.0527	1,945.3424
<b>Total</b>	<b>0.8074</b>	<b>2.5900</b>	<b>7.8140</b>	<b>0.0269</b>	<b>2.4582</b>	<b>0.0328</b>	<b>2.4910</b>	<b>0.6578</b>	<b>0.0309</b>	<b>0.6886</b>		<b>2,770.4049</b>	<b>2,770.4049</b>	<b>0.0842</b>	<b>0.1741</b>	<b>2,824.4036</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
<b>Total</b>	<b>1.5233</b>	<b>11.7104</b>	<b>12.6111</b>	<b>0.0221</b>		<b>0.5145</b>	<b>0.5145</b>		<b>0.4968</b>	<b>0.4968</b>		<b>2,001.7877</b>	<b>2,001.7877</b>	<b>0.3399</b>		<b>2,010.2858</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0445	1.6075	0.6135	7.4600e-003	0.2562	7.7700e-003	0.2640	0.0738	7.4300e-003	0.0812		802.4812	802.4812	0.0267	0.1155	837.5644
Worker	0.6774	0.4855	6.5441	0.0185	2.2020	0.0133	2.2152	0.5840	0.0122	0.5962		1,866.2866	1,866.2866	0.0504	0.0486	1,882.0179
<b>Total</b>	<b>0.7218</b>	<b>2.0930</b>	<b>7.1575</b>	<b>0.0259</b>	<b>2.4582</b>	<b>0.0210</b>	<b>2.4792</b>	<b>0.6578</b>	<b>0.0196</b>	<b>0.6774</b>		<b>2,668.7678</b>	<b>2,668.7678</b>	<b>0.0771</b>	<b>0.1641</b>	<b>2,719.5823</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Building Construction - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
<b>Total</b>	<b>1.5233</b>	<b>11.7104</b>	<b>12.6111</b>	<b>0.0221</b>		<b>0.5145</b>	<b>0.5145</b>		<b>0.4968</b>	<b>0.4968</b>	<b>0.0000</b>	<b>2,001.7877</b>	<b>2,001.7877</b>	<b>0.3399</b>		<b>2,010.2858</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0445	1.6075	0.6135	7.4600e-003	0.2562	7.7700e-003	0.2640	0.0738	7.4300e-003	0.0812		802.4812	802.4812	0.0267	0.1155	837.5644
Worker	0.6774	0.4855	6.5441	0.0185	2.2020	0.0133	2.2152	0.5840	0.0122	0.5962		1,866.2866	1,866.2866	0.0504	0.0486	1,882.0179
<b>Total</b>	<b>0.7218</b>	<b>2.0930</b>	<b>7.1575</b>	<b>0.0259</b>	<b>2.4582</b>	<b>0.0210</b>	<b>2.4792</b>	<b>0.6578</b>	<b>0.0196</b>	<b>0.6774</b>		<b>2,668.7678</b>	<b>2,668.7678</b>	<b>0.0771</b>	<b>0.1641</b>	<b>2,719.5823</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6446</b>	<b>6.2357</b>	<b>8.8024</b>	<b>0.0136</b>		<b>0.3084</b>	<b>0.3084</b>		<b>0.2846</b>	<b>0.2846</b>		<b>1,297.688 0</b>	<b>1,297.688 0</b>	<b>0.4114</b>		<b>1,307.972 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
<b>Total</b>	<b>0.0447</b>	<b>0.0320</b>	<b>0.4318</b>	<b>1.2200e-003</b>	<b>0.1453</b>	<b>8.7000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.0000e-004</b>	<b>0.0393</b>		<b>123.1560</b>	<b>123.1560</b>	<b>3.3200e-003</b>	<b>3.2000e-003</b>	<b>124.1941</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.6 Paving - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.688 0	1,297.688 0	0.4114		1,307.972 5
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.6446</b>	<b>6.2357</b>	<b>8.8024</b>	<b>0.0136</b>		<b>0.3084</b>	<b>0.3084</b>		<b>0.2846</b>	<b>0.2846</b>	<b>0.0000</b>	<b>1,297.688 0</b>	<b>1,297.688 0</b>	<b>0.4114</b>		<b>1,307.972 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0320	0.4318	1.2200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		123.1560	123.1560	3.3200e-003	3.2000e-003	124.1941
<b>Total</b>	<b>0.0447</b>	<b>0.0320</b>	<b>0.4318</b>	<b>1.2200e-003</b>	<b>0.1453</b>	<b>8.7000e-004</b>	<b>0.1462</b>	<b>0.0385</b>	<b>8.0000e-004</b>	<b>0.0393</b>		<b>123.1560</b>	<b>123.1560</b>	<b>3.3200e-003</b>	<b>3.2000e-003</b>	<b>124.1941</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.6908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>128.8824</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1341	0.0961	1.2955	3.6600e-003	0.4359	2.6200e-003	0.4386	0.1156	2.4100e-003	0.1180		369.4679	369.4679	9.9700e-003	9.6100e-003	372.5822
<b>Total</b>	<b>0.1341</b>	<b>0.0961</b>	<b>1.2955</b>	<b>3.6600e-003</b>	<b>0.4359</b>	<b>2.6200e-003</b>	<b>0.4386</b>	<b>0.1156</b>	<b>2.4100e-003</b>	<b>0.1180</b>		<b>369.4679</b>	<b>369.4679</b>	<b>9.9700e-003</b>	<b>9.6100e-003</b>	<b>372.5822</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.7 Architectural Coating - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	128.6908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>128.8824</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1341	0.0961	1.2955	3.6600e-003	0.4359	2.6200e-003	0.4386	0.1156	2.4100e-003	0.1180		369.4679	369.4679	9.9700e-003	9.6100e-003	372.5822
<b>Total</b>	<b>0.1341</b>	<b>0.0961</b>	<b>1.2955</b>	<b>3.6600e-003</b>	<b>0.4359</b>	<b>2.6200e-003</b>	<b>0.4386</b>	<b>0.1156</b>	<b>2.4100e-003</b>	<b>0.1180</b>		<b>369.4679</b>	<b>369.4679</b>	<b>9.9700e-003</b>	<b>9.6100e-003</b>	<b>372.5822</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0210	5.3433	48.4889	0.1028	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,488.31 24	10,488.31 24	0.7639	0.4730	10,648.34 83
Unmitigated	5.0210	5.3433	48.4889	0.1028	11.1803	0.0770	11.2573	2.9781	0.0715	3.0496		10,488.31 24	10,488.31 24	0.7639	0.4730	10,648.34 83

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,164.16	1,050.74	875.26	3,781,713	3,781,713
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	700.26	664.23	322.79	1,219,919	1,219,919
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,864.42	1,714.97	1,198.05	5,001,632	5,001,632

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Enclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Strip Mall	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Unenclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697
NaturalGas Unmitigated	0.0688	0.5882	0.2532	3.7500e-003		0.0475	0.0475		0.0475	0.0475		750.3110	750.3110	0.0144	0.0138	754.7697

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6307.08	0.0680	0.5812	0.2473	3.7100e-003		0.0470	0.0470		0.0470	0.0470		742.0099	742.0099	0.0142	0.0136	746.4193
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	70.5589	7.6000e-004	6.9200e-003	5.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3011	8.3011	1.6000e-004	1.5000e-004	8.3504
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0688</b>	<b>0.5882</b>	<b>0.2532</b>	<b>3.7500e-003</b>		<b>0.0475</b>	<b>0.0475</b>		<b>0.0475</b>	<b>0.0475</b>		<b>750.3110</b>	<b>750.3110</b>	<b>0.0144</b>	<b>0.0138</b>	<b>754.7697</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6.30708	0.0680	0.5812	0.2473	3.7100e-003		0.0470	0.0470		0.0470	0.0470		742.0099	742.0099	0.0142	0.0136	746.4193
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0705589	7.6000e-004	6.9200e-003	5.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3011	8.3011	1.6000e-004	1.5000e-004	8.3504
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0688</b>	<b>0.5882</b>	<b>0.2532</b>	<b>3.7500e-003</b>		<b>0.0475</b>	<b>0.0475</b>		<b>0.0475</b>	<b>0.0475</b>		<b>750.3110</b>	<b>750.3110</b>	<b>0.0144</b>	<b>0.0138</b>	<b>754.7697</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883
Unmitigated	60.8342	4.6436	126.4887	0.2786		16.4450	16.4450		16.4450	16.4450	2,004.5205	3,883.8134	5,888.3339	6.0084	0.1361	6,079.0883

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	56.0757	4.4401	108.8301	0.2776		16.3471	16.3471		16.3471	16.3471	2,004.5205	3,852.0000	5,856.5205	5.9779	0.1361	6,046.5109
Landscaping	0.5316	0.2034	17.6586	9.3000e-004		0.0979	0.0979		0.0979	0.0979		31.8134	31.8134	0.0306		32.5774
<b>Total</b>	<b>60.8342</b>	<b>4.6436</b>	<b>126.4887</b>	<b>0.2786</b>		<b>16.4450</b>	<b>16.4450</b>		<b>16.4450</b>	<b>16.4450</b>	<b>2,004.5205</b>	<b>3,883.8134</b>	<b>5,888.3339</b>	<b>6.0084</b>	<b>0.1361</b>	<b>6,079.0883</b>

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3526					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	56.0757	4.4401	108.8301	0.2776		16.3471	16.3471		16.3471	16.3471	2,004.5205	3,852.0000	5,856.5205	5.9779	0.1361	6,046.5109
Landscaping	0.5316	0.2034	17.6586	9.3000e-004		0.0979	0.0979		0.0979	0.0979		31.8134	31.8134	0.0306		32.5774
<b>Total</b>	<b>60.8342</b>	<b>4.6436</b>	<b>126.4887</b>	<b>0.2786</b>		<b>16.4450</b>	<b>16.4450</b>		<b>16.4450</b>	<b>16.4450</b>	<b>2,004.5205</b>	<b>3,883.8134</b>	<b>5,888.3339</b>	<b>6.0084</b>	<b>0.1361</b>	<b>6,079.0883</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

7115 Van Nuys Boulevard - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

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8.1 Mitigation Measures Waste

9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Technical Consultation, Data Analysis and  
Litigation Support for the Environment

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**Matthew F. Hagemann, P.G., C.Hg., QSD, QSP**

**Geologic and Hydrogeologic Characterization  
Investigation and Remediation Strategies  
Litigation Support and Testifying Expert  
Industrial Stormwater Compliance  
CEQA Review**

**Education:**

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

**Professional Certifications:**

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

**Professional Experience:**

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014, 2017;
- Senior Environmental Analyst, Komex H<sub>2</sub>O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

**Senior Regulatory and Litigation Support Analyst:**

With SWAPE, Matt’s responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt’s duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

#### **Executive Director:**

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

#### **Hydrogeology:**

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

### **Policy:**

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.

- Established national protocol for the peer review of scientific documents.

### **Geology:**

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

### **Teaching:**

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

### **Invited Testimony, Reports, Papers and Presentations:**

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

**Hagemann, M.F.**, 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

**Hagemann, M.F.**, 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

**Hagemann, M.F.**, 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

**Hagemann, M.F.**, 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

**Hagemann, M.F.**, 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

**Hagemann, M.F.**, 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

**Hagemann, M.F.**, 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

**Hagemann, M.F.**, 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

**Hagemann, M.F.**, and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

**Hagemann, M.F.**, 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

**Hagemann, M.F.**, 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

**Hagemann, M.F.**, and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

**Hagemann, M.F.**, Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

**Hagemann, M. F.**, Fukunaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

**Hagemann, M.F.**, 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

**Hagemann, M.F.** and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

**Hagemann, M.F.**, 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

**Hagemann, M.F.**, 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.



Technical Consultation, Data Analysis and  
Litigation Support for the Environment

**SOIL WATER AIR PROTECTION ENTERPRISE**

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## ***Paul Rosenfeld, Ph.D.***

*Principal Environmental Chemist*

**Chemical Fate and Transport & Air Dispersion Modeling**

**Risk Assessment & Remediation Specialist**

### **Education**

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

### **Professional Experience**

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

## **Professional History:**

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner  
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)  
UCLA School of Public Health; 2003 to 2006; Adjunct Professor  
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator  
UCLA Institute of the Environment, 2001-2002; Research Associate  
Komex H<sub>2</sub>O Science, 2001 to 2003; Senior Remediation Scientist  
National Groundwater Association, 2002-2004; Lecturer  
San Diego State University, 1999-2001; Adjunct Professor  
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager  
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager  
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor  
King County, Seattle, 1996 – 1999; Scientist  
James River Corp., Washington, 1995-96; Scientist  
Big Creek Lumber, Davenport, California, 1995; Scientist  
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist  
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

## **Publications:**

**Rosenfeld P. E.**, Spaeth K., Hallman R., Bressler R., Smith, G., (2022) [Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers](#). *Water Air Soil Pollution*. **233**, 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health*. 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P.**, (2015) Modeling the Effect of Refinery Emission On Residential Property Value. *Journal of Real Estate Research*. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.**, Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermol and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

**Rosenfeld, P.E.** & Feng, L. (2011). *The Risks of Hazardous Waste*. Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*. Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution*, 123 (17), 319-327.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

**Rosenfeld, P.E.**, J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

**Rosenfeld, P. E.**, M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities*. Boston Massachusetts: Elsevier Publishing

**Rosenfeld, P.E.**, and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

**Rosenfeld P. E.**, J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

**Rosenfeld, P.E.**, and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

**Rosenfeld, P.E.**, and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49( 9), 171-178.

**Rosenfeld, P. E.**, Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

**Rosenfeld, P.E.**, Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office, Publications Clearinghouse (MS-6)*, Sacramento, CA Publication #442-02-008.

**Rosenfeld, P.E.**, and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

**Rosenfeld, P.E.**, and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

**Rosenfeld, P.E.**, C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

**Rosenfeld, P.E.**, and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

**Rosenfeld, P.E.**, and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld**. (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

**Rosenfeld, P. E.** (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

**Rosenfeld, P. E.** (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

**Rosenfeld, P. E.** (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

**Rosenfeld, P. E.** (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

**Rosenfeld, P. E.** (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

## **Presentations:**

**Rosenfeld, P.E.**, "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

**Rosenfeld, P.E.**, Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

**Rosenfeld, P.E.** (April 19-23, 2009). Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

**Rosenfeld, P.E.** (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

**Rosenfeld, P. E.** (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld P. E.** (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

**Rosenfeld P. E.** (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting*. Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition*. Lecture conducted from Boston Massachusetts.

**Paul Rosenfeld Ph.D.** (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference*. Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

**Paul Rosenfeld Ph.D.** (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

**Paul Rosenfeld Ph.D.** (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel in Irvine, California.

**Paul Rosenfeld Ph.D.** (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference*. Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

**Paul Rosenfeld Ph.D.** (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

**Paul Rosenfeld Ph.D.** (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld Ph.D.** (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation*. *2005 National Groundwater Association Ground Water and Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

**Paul Rosenfeld, Ph.D.** (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

**Paul Rosenfeld, Ph.D.** (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

**Rosenfeld, P. E.**, Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference Orlando, FL*.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants..* Lecture conducted from Hyatt Regency Phoenix Arizona.

**Paul Rosenfeld, Ph.D.** (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

**Paul Rosenfeld, Ph.D.** (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

**Rosenfeld, P.E.** and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E.** and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E.** and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

**Rosenfeld, P.E.** and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conference*. Lecture conducted from Indianapolis, Maryland.

**Rosenfeld, P.E.** (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation*. Lecture conducted from Anaheim California.

**Rosenfeld, P.E.** (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest*. Lecture conducted from Ocean Shores, California.

**Rosenfeld, P.E.** (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

**Rosenfeld, P.E.**, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.**, and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell*. Lecture conducted from Seattle Washington.

**Rosenfeld, P.E.,** C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.,** C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

## **Teaching Experience:**

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

## **Academic Grants Awarded:**

California Integrated Waste Management Board. \$41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: \$10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. \$100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. \$20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: \$10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

### **Deposition and/or Trial Testimony:**

In the Superior Court of the State of California, County of San Bernardino  
Billy Wildrick, Plaintiff vs. BNSF Railway Company  
Case No. CIVDS1711810  
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia  
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company  
Case No. 10-SCCV-092007  
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana  
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.  
Case No. 2020-03891  
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division  
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad  
Case No. 18-LV-CC0020  
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division  
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.  
Case No. 20-CA-5502  
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri  
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.  
Case No. 19SL-CC03191  
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division  
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.  
Case No. NO. 20-CA-0049  
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District  
Greg Bean, Plaintiff vs. Soo Line Railroad Company  
Case No. 69-DU-CV-21-760  
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington  
John D. Fitzgerald Plaintiff vs. BNSF  
Case No. 3:21-cv-05288-RJB  
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois  
Rocky Bennyhoff Plaintiff vs. Norfolk Southern  
Case No. 20-L-56  
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio  
Joe Briggins Plaintiff vs. CSX  
Case No. A2004464  
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern  
George LaFazia vs. BNSF Railway Company.  
Case No. BCV-19-103087  
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois  
Bobby Earles vs. Penn Central et. al.  
Case No. 2020-L-000550  
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida  
Albert Hartman Plaintiff vs. Illinois Central  
Case No. 2:20-cv-1633  
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4<sup>th</sup> Judicial Circuit, in and For Duval County, Florida  
Barbara Steele vs. CSX Transportation  
Case No.16-219-Ca-008796  
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York  
Romano et al. vs. Northrup Grumman Corporation  
Case No. 16-cv-5760  
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois  
Linda Benjamin vs. Illinois Central  
Case No. No. 2019 L 007599  
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois  
Donald Smith vs. Illinois Central  
Case No. No. 2019 L 003426  
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois  
Jan Holeman vs. BNSF  
Case No. 2019 L 000675  
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia  
Dwayne B. Garrett vs. Norfolk Southern  
Case No. 20-SCCV-091232  
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois  
Joseph Ruepke vs. BNSF  
Case No. 2019 L 007730  
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska  
Steven Gillett vs. BNSF  
Case No. 4:20-cv-03120  
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County  
James Eadus vs. Soo Line Railroad and BNSF  
Case No. DV 19-1056  
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois  
Martha Custer et al.cvs. Cerro Flow Products, Inc.  
Case No. 0i9-L-2295  
Rosenfeld Deposition 5-14-2021  
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois  
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,  
Case No. 18-L-6845  
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois  
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail  
Case No. 17-cv-8517  
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cuntly of Maricopa  
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.  
Case No. CV20127-094749  
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division  
Robinson, Jeremy et al vs. CNA Insurance Company et al.  
Case No. 1:17-cv-000508  
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino  
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.  
Case No. 1720288  
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse  
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.  
Case No. 18STCV01162  
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri  
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.  
Case No. 1716-CV10006  
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey  
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.  
Case No. 2:17-cv-01624-ES-SCM  
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division  
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS “Conti Perdido” Defendant.  
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237  
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica  
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants  
Case No. BC615636  
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica  
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants  
Case No. BC646857  
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado  
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants  
Case No. 1:16-cv-02531-RBJ  
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112<sup>th</sup> Judicial District  
Phillip Bales et al., Plaintiff vs. Dow Agrosiences, LLC, et al., Defendants  
Cause No. 1923  
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa  
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants  
Cause No. C12-01481  
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois  
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants  
Case No.: No. 0i9-L-2295  
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi  
Guy Manuel vs. The BP Exploration et al., Defendants  
Case No. 1:19-cv-00315-RHW  
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles  
Warrn Gilbert and Penny Gilbert, Plaintiff vs. BMW of North America LLC  
Case No. LC102019 (c/w BC582154)  
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division  
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants  
Case No. 4:16-cv-52-DMB-JVM  
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish  
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants  
Case No. 13-2-03987-5  
Rosenfeld Deposition, February 2017  
Trial March 2017

In The Superior Court of the State of California, County of Alameda  
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants  
Case No. RG14711115  
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County  
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants  
Case No. LALA002187  
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia  
Robert Andrews, et al. v. Antero, et al.  
Civil Action No. 14-C-30000  
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County  
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant  
Case No. 4980  
Rosenfeld Deposition May 2015

In the Circuit Court of the 17<sup>th</sup> Judicial Circuit, in and For Broward County, Florida  
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.  
Case No. CACE07030358 (26)  
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas  
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.  
Case No. cc-11-01650-E  
Rosenfeld Deposition: March and September 2013  
Rosenfeld Trial April 2014

In the Court of Common Pleas of Tuscarawas County Ohio  
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants  
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)  
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division  
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.  
Civil Action No. 2:09-cv-232-WHA-TFM  
Rosenfeld Deposition July 2010, June 2011

In the Circuit Court of Jefferson County Alabama  
Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants  
Civil Action No. CV 2008-2076  
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division  
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.  
Case No. 2:07CV1052  
Rosenfeld Deposition July 2009

# Exhibit B



## INDOOR ENVIRONMENTAL ENGINEERING



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Date: June 13, 2023

To: Adam Frankel  
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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: 7115 North Van Nuys Boulevard Project, Los Angeles, CA  
(IEE File Reference: P-4714)

Pages: 19

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### **Indoor Air Quality Impacts**

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

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

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

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m<sup>3</sup>, 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 Air Quality Management District (SDAQMD, 2015).

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

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 7115 North Van Nuys Boulevard Project, Los Angeles, CA the buildings consist of residential and commercial spaces.

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

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

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

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

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be 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<sup>3</sup> of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

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

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

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/m<sup>3</sup>, (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 418 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.,  $\text{m}^2$  of material/ $\text{m}^2$  floor area, units of furnishings/ $\text{m}^2$  floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate ( $\mu\text{g}/\text{h}$ ) from the product of the area-specific formaldehyde emission rate ( $\mu\text{g}/\text{m}^2\text{-h}$ ) and the area ( $\text{m}^2$ ) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate ( $\mu\text{g}/\text{unit-h}$ ) 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. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

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

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

where:

$C_{in}$  = indoor formaldehyde concentration (µg/m<sup>3</sup>)

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

$Q_{oa}$  = design minimum outdoor air ventilation rate to the IAQ Zone (m<sup>3</sup>/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 7115 North Van Nuys Boulevard Project is close to roads with moderate to high traffic (e.g., Van Nuys Boulevard, Keswick Street, Raymer Street, etc.), and thus the Project site is a sound impacted site.

According to Class 32 CEQA Exemption – 7115 North Van Nuys Boulevard Project, Los Angeles, CA (City of Los Angeles, 2022), on page 18 of the attached York Engineering July 27, 2022 letter, DRAFT Air Quality, Greenhouse Gas, and Noise Study for a Six-Story Mixed Use Development in Los Angeles, CA, no acoustic study has been conducted to determine the existing and future ambient noise levels.

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study of the existing and future ambient noise levels needs to be conducted. An acoustic study should be conducted to assess the local ambient sound levels (i.e., dBA CNEL or Ldn) over a one-week period so that the building envelope and windows can be designed with a sufficient STC such that the indoor noise levels are acceptable.

As a result of the high outdoor noise levels, the current project will require a mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors. 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<sub>2.5</sub> Outdoor Concentrations Impact.** An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of PM<sub>2.5</sub>. According to the to Class 32 CEQA Exemption – 7115 North Van Nuys Boulevard Project, Los Angeles, CA (City of Los Angeles, 2022) the Project is located in the South Coast Air Basin, which is a State and Federal non-attainment area for PM<sub>2.5</sub>.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 418 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<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> exceedence concentration of 12 µg/m<sup>3</sup>, or the National 24-hour average exceedence concentration of 35 µg/m<sup>3</sup>, 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<sub>2.5</sub> particles is less than the California and National PM<sub>2.5</sub> annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of PM<sub>2.5</sub> will exceed the California and National PM<sub>2.5</sub> annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

### **Indoor Air Quality Impact Mitigation Measures**

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

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

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

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

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft<sup>2</sup> 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<sub>2.5</sub> Outdoor Air Concentration Mitigation. Install air filtration with sufficient PM<sub>2.5</sub> 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<sub>2.5</sub> particles are less than the California and National PM<sub>2.5</sub> 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 ( $2,272 \text{ ft}^2$ ), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

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

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

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

# Exhibit C



11 July 2023

Adam Frankel, Esq.  
Lozeau | Drury LLP  
1939 Harrison Street, Suite 150  
Oakland, California 94612

Subject:       **7115-7131 Van Nuys Boulevard Mixed-Use  
Los Angeles, California  
Case No. ENV-2022-7248-CE  
Review and Comment on Environmental Noise Study**

Dear Mr. Frankel,

As requested, we have reviewed the information and noise impact analyses in the class 32 CEQA Categorical Exemption (CatEx)<sup>1</sup> for the 7115-7131 Van Nuys Boulevard Mixed-Use project. The proposed project involves the construction, use and maintenance. The proposed project is the construction, use, and maintenance of a new, six-story, 195,273 square-foot mixed-use building with 214 dwelling units, and 15,804 square-feet of commercial space. The Project is surrounded by noise sensitive uses – most notably apartments roughly 100 feet to the West across Sherman Circle. This letter reports our comments on the noise analysis in the subject document.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 56 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 Environmental Noise Model (ENM), Traffic Noise Model (TNM), 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.

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<sup>1</sup> DRAFT Air Quality, Greenhouse Gas, and Noise Study for a Six-Story Mixed Use Development in Los Angeles, CA, Yorke Engineering

## Adverse Effects of Noise<sup>2</sup>

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 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. One societal change brought about by the COVID-19 pandemic is that many people now routinely work and learn from home, and this has given rise to more noise complaints from loud activities such as construction work.

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<sup>2</sup> 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://www.who.int/docstore/peh/noise/Comnoise-1.pdf>)

### **Baseline Noise Level characterizations are Incomplete**

The CatEx states “The FHWA noise model puts the expected daytime ambient noise from known sources at about 64 dBA at the nearest sensitive receptor to the proposed Project. This model is based on traffic from nearby roads, as well as a general 40 dBA urban background noise.” (CatEx PDF Pg. 16.).

There are two issues with the statement. One, the “FHWA Model” is uncited. The Federal Highway Administration program that is cited and used in the document is the Roadway Construction Noise Model (RCNM). This cannot be used to model traffic noise, as it only models noise from a single point, not a line-source such as from a roadway. It is possible that this document refers to the FHWA Traffic Noise Model. However, if this is the case, it should both be cited and traffic counts should be included as an input and should be included to determine and verify that the model is indeed built correctly.

Moreover, typical baseline noise measurements are the preferred way to determine background noise sources. These measurements serve as a crucial reference point for evaluating the potential noise impacts of proposed projects or activities. By establishing the baseline noise conditions before any new development occurs, decision-makers can effectively determine whether the project complies with noise regulations and identify any potential adverse effects on the surrounding environment and communities. Given the high density of pedestrian activity, airplanes from nearby Bob Hope airport, multiple bus lines running up and down Van Nuys Blvd and variable speeds from a 6-lane road that is also 500 feet from a major intersection, a traffic model alone cannot accurately represent the noise environment. The document should be re-submitted with baseline noise measurements, in order to properly describe the noise environment.

### **Construction and Operational Noise Analyses are Incomplete.**

#### *Document Implies Mitigation*

The CatEx states that “the Project will implement technically feasible control measures in compliance with the standards set forth in LAMC Section 112.05. Specifically, the use of deflectors/barriers” (Pg. 20). Table 10 describes estimated peak activity daytime noise impacts during the construction phases and includes barrier reduction effects. It even uses the word “mitigated” in the title of the table. As such, this would render the project ineligible for a Class 32 Categorical Exemption.

The City of Los Angeles Class 32 Categorical Exemption guide<sup>3</sup> states that “The Class 32 Exemption is not available for any project that requires mitigation measures to reduce potential environmental impacts to less than significant.” Since mitigation is used in the calculations to determine if noise exceeds an impact threshold, a more thorough Environmental Impact Report should be conducted to compare noise levels before and after mitigation to show that mitigation is necessary and that after implementation noise levels are below any and all thresholds.

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<sup>3</sup> <https://planning.lacity.org/odocument/ad70d15e-11b8-49ef-aba3-b168f670a576/Class%2032%20Categorical%20Exemption.pdf>. Pg 1.

*Proposed Mitigation does not Help all Affected Receivers*

Additionally, another problem is the assumption of 5-15 dBA of shielding in the noise calculations. this barrier would not provide line of sight shielding for receivers on the top floor of the apartment building to the west. While this may be true for sources and receivers at the same height, there is no effect for upper floor receivers, which would look right over the barrier and have direct line of sight to the project site and construction equipment. Assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look directly over the barrier onto the property and receive no benefit from the shielding effects.

A sample calculation uses RCNM based on the data demolition phase presented in Table 10. Combining all sources gives a worst-case Sound Power Level of 116 dBA. On the 4<sup>th</sup> floor of the apartment complex to the west, which directly looks into the site, levels would reach 76 dBA at the building façade, assuming a 5 foot source height, 15 feet behind a 8 foot property line barrier, and the 82 feet source-receptor distance used in the CatEx (Pg. 16). This is over the threshold of 75 dBA set in the document. As such, barrier calculations should be re-oriented to accurately account for receivers higher than ground level.

*Operational Noise Analysis is Incomplete*

The document states that the “overall noise levels generated by the new HVAC equipment are not expected to be substantially greater than generated by older HVAC equipment installed on existing buildings near the Project site.” The conclusion drawn regarding the similarity in HVAC equipment usage between the existing and future use is incorrect and does not accurately represent the circumstances at hand. The current use of the premises comprises two fast food restaurants, which are equipped with HVAC roof units situated approximately 20 feet high. In contrast, the proposed project entails the construction of six-story structures accommodating a total of 212 units.

Given the significantly larger scale and complexity of the proposed development, it is evident that the cooling requirements for the expanded space would be considerably higher compared to the existing use. The substantial increase in power consumption necessary for adequately cooling the expanded space will inevitably result in additional operational noise. This noise, which arises from the intensified operation of HVAC systems, is expected to surpass the levels associated with the current use. Consequently, a full operational analysis should be conducted with realistic HVAC levels and the number of estimated units to confirm that nearby apartments would not experience a meaningful increase in operational noise.

*Traffic Noise Analysis is Incomplete*

The document does not include any traffic noise analysis. If the main ingress and egress street for this complex is Sherman Circle, it is possible that the increase in traffic from this project could significantly increase traffic noise to the apartment complex directly to the west of the project. Considering there is only one other large apartment complex on Sherman Circle, it is not unreasonable to assume that the new project could result in a doubling of traffic, with is typically a 3 dBA increase. 3 dBA is a doubling of the sound energy and is considered a significant impact in many jurisdictions. Without ambient measurements it is impossible to conduct this analysis. As such, measurements should be conducted, which are then used to validate a traffic noise model and determine if new traffic noise plus existing traffic would institute a significant increase.



Please contact me if you have any questions about this review of the construction noise analysis in the 7115-7131 North Van Nuys Boulevard Noise Study.

Very truly yours,

WILSON IHRIG



John P Meighan

Associate

draft comments on 7115-7131 van nuys boulevard noise analysis.docx  
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