CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

Class 32 CEQA Exemption

3836 North Figueroa Street
Case Number: ENV-2018-4189-CE

Project Addresses: 3836 North Figueroa Street
Community Plan Area: Northeast Los Angeles
Council District: 1 - Gilbert Cedillo

Project Description:

The subject property is comprised of seven (7) lots measuring approximately 37,520 square feet (46,688 square feet including the 9,633 square foot of right-of-way along the Pasadena Ave frontage to be merged into the project site). The subject property is bounded by Figueroa Street to the northwest, Avenue 39 to the northeast, Avenue 38 to the southwest, and Pasadena Avenue to the west. The project site is currently improved with one (1) duplex and a recycling center.

The proposed project is the construction, use, and maintenance of a new, seven-story (with one [1] basement level), mixed-use building with 100 dwelling units, including 10 dwelling units set aside for Extremely Low Income Households (or 10% of the total number of units) and 14,734 square feet of ground floor commercial space.

The project includes 11 five-bedroom units, 20 four-bedroom units, 18 three-bedroom units, 32 two-bedroom units, three (3) studio units, 13 one-bedroom units, and three (3) townhome style units, and a total of 19,523 square feet of open space for residents. Additionally, the intersection of Pasadena Avenue and Figueroa Street will open onto an approximately 4,767 square-foot public plaza designed to preserve existing protected trees on-site and will provide a public community gathering space. The project will provide a total of 114 automobile parking spaces, 16 short-term and 210 long-term bicycle parking spaces. The proposed project would include 150,501 square feet with a maximum floor area ratio (FAR) of 4.5:1.

PREPARED FOR:
The City of Los Angeles
Department of City Planning

PREPARED BY:
The City of Los Angeles
Department of City Planning

APPLICANT:
Michael Naim
347 South Robertson Boulevard
Beverly Hills, CA 90211

JUSTIFICATION FOR PROJECT EXEMPTION CASE NO. ENV-2018-4189-CE

The City of Los Angeles determined based on the whole of the administrative record that the project is exempt from California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Section 15332, and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies. The project was found to be exempt based on the following:

Project Description:

The project is located at 3800-3830 North Pasadena Avenue, 3832-3836 North Figueroa Street, and 110 East Avenue 39 in the Northeast Los Angeles Community Plan Area.

The proposed project involves the demolition of the existing structures and the construction, use, and maintenance of a seven-story, mixed-use development with 100 residential condominium units (with 10 units set aside for Extremely Low Income Households), 14,734 square feet of ground floor commercial space, and 114 automobile parking spaces.

The project requires the following:

1. Pursuant to Los Angeles Municipal Code (LAMC) Section 17.15, a Vesting Tentative Tract Map to allow for the subdivision of seven (7) lots into 100 residential condominium units and 14 commercial condominium units, and the merger of a portion of Pasadena Avenue.

2. Pursuant to the LAMC Section 12.22-A,31, a 70% increase in density consistent with the provisions of the Transit Oriented Communities Affordable Housing Incentive Program along with the following three (3) incentives for a Tier 3 project with a total of 100 dwelling units, including 10 units reserved for Extremely Low Income (ELI) Household occupancy for a period of 55 years:

    a. **Height**. To permit a maximum height increase of two (2) additional stories up to 22 additional feet; and

    b. **Density Calculation**. To permit the use of density calculation pursuant to LAMC Section 12.22.A25(f)(7), and

3. Pursuant to the LAMC Section 16.05, Site Plan Review for a development project which creates, or results in an increase of 50 or more dwelling units.

Implementation of the California Environmental Quality Act

Pursuant to Section 21084 of the Public Resources Code, the Secretary for the Natural Resources Agency found certain classes of projects not to have a significant effect on the environment and declared them to be categorically exempt from the requirement for the preparation of environmental documents.

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.

Conditions for a Class 32 Exemption

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 the applicable zoning designation and regulations;
2) The proposed developed 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; and
5) The site can be adequately served by all required utilities and public services.

The project is located within the Northeast Los Angeles Community Plan which designates the subject property for Community Commercial land uses with corresponding zones of CR, C2, C4, P, PB, and RAS3. The subject property is zone [T][Q]RAS3-1VL. The project is consistent with the applicable general plan land use designation and all applicable general plan policies as well as with the applicable zoning designation and regulations.

The subject site is wholly within the City of Los Angeles, on a site that is approximately 0.86 acres in size. Lots adjacent to the subject properties are developed with the following urban uses: commercial, and multi-family developments. The site is currently developed and is surrounded by development and therefore is not, and has no value as, a habitat for endangered, rare or threatened species. In addition, there are four (4) protected trees on the subject site. The four (4) protected trees (three [3] coast live oak [Quercus agrifolia] and one [1] Western sycamore [Platanus racemose]) located at the northern portion of the site will be retained.

The project would not result in any significant effects related to traffic, noise, air quality, or water quality.

- The project will be subject to Regulatory Compliance Measures, which require compliance with the City of Los Angeles Noise Ordinance, pollutant discharge, dewatering, stormwater conditions; and Best Management Practices for stormwater runoff. These RCMs will ensure the project will not have significant impacts on noise and water.

- A Traffic Impact Analysis dated July 2018, was prepared by Transpo Group for the proposed project indicating that the project will result in less than significant impacts to project-related traffic.

- An addendum dated August 2022, was prepared by Transpo Group to provide the required CEQA analysis in accordance with the Transportation Assessment Guidelines (TAG) adopted by LADOT in July 2020. The Addendum was reviewed by LADOT and concluded that the project design feature in the calculation of the project's VMT will result in less than significant impacts to project-related traffic.

- An Air Quality Impact Analysis dated March 2017 was prepared by ENVICOM Corporation for the proposed project indicating that the project will result in less than significant impacts to air quality.

- A Noise Technical Report dated December 2018, was prepared by DKA Planning for the proposed project indicating that noise impacts would be less than significant.

- Construction and operational noise levels would not have a significant impact. Based on a review of similar projects, the project would not create significant levels of construction or operational emissions, nor toxic air contaminants. In addition the project would not result in significant impacts to water quality.

The project site will be adequately served by all public utilities and services given that the construction of a seven-story, mixed-use development with 100 residential condominium units and 14,734 square feet of ground floor commercial space will be on a site that has been previously developed and is consistent with the General Plan. Therefore, the project meets all of the Criteria for the Class 32.

Exceptions to Categorical Exemptions

There are six (6) exceptions to categorical exemptions must be considered in order to find a project exempt from CEQA: (a) Location; (b) Cumulative Impacts; (c) Significant Effect; (d) Scenic Highways; (e) Hazardous Waste Sites; and (f) Historical Resources.

The project is not located on or near any environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies. There is not a succession of known projects of the same type and in same place as the subject project. The project would not reasonably result in a significant effect on the environment due to unusual circumstances. The project is not located near a State Scenic Highway. The only State Scenic Highway within the City of Los Angeles is the Topanga Canyon State Scenic Highway, State Route 27. Furthermore, according to Envirostor, the State of California's database of Hazardous Waste Sites, neither the subject site, nor any site in the vicinity is identified as an active hazardous waste site. The project site has not been identified as a historic resource by local or state agencies, and the project site has not been determined to be eligible for listing in the National Register or Historic Places, California Register of Historical Resources, the Los Angles Historic-Cultural Monuments Register, and/or any local register, and was not found to be a potential historic resource based on the City's HistoricPlacesLA website or SurveyLA, the citywide survey of Los Angeles. Based on this, the project will not result in a substantial adverse change to the significance of a historic resource and this exception does not apply.

NELA PLAZA

Noise and Vibration Technical Report

Prepared by DKA Planning
December 2018

NELA PLAZA

Noise and Vibration Technical Report

Douglas Kim + Associates, LLC
1513 Sepulveda Boulevard, Torrance, CA 90501
(310) 316-2800
doug@dkaplanning.com

OVERVIEW

This report analyzes the potential noise and vibration impacts from the development of a new mixed-use building containing approximately 14,000 square feet of ground floor commercial space and 100 residential dwelling units. The Project would replace an existing residential land use and recycling facility.

NOISE -- Would the Project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? *Less Than Significant Impact.*

Introduction to Noise

Characteristics of Sound

Sound can be described in terms of its loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel, abbreviated dB. Because the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is used to reflect the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. Table 1 provides examples of A-weighted noise levels from common sources.

TABLE 1: A-WEIGHTED DECIBEL SCALE

Typical A-Weighted Sound Levels	Sound Level (dBA, L_{eq})
Near Jet Engine	130
Rock and Roll Band	110
Jet Flyover at 1,000 Feet	100
Power Motor	90
Food Blender	80
Living Room Music	70
Human Voice at 3 Feet	60
Residential Air Conditioner at 50 Feet	50
Bird Calls	40
Quiet Living Room	30
Average Whisper	20
Rustling Leaves	10

Source: Cowan, James P., Handbook of Environmental Acoustics, 1993.

These noise levels are approximations intended for general reference and informational use. They do not meet the standard required for detailed noise analysis, but are provided for the reader to gain a rudimentary concept of various noise levels.

Noise Definitions

This noise analysis discusses sound levels in terms of Equivalent Noise Level (L_{eq}) and Community Noise Equivalent Level (CNEL). “Noise” itself is frequently defined as “unwanted sound.”

Equivalent Noise Level

L_{eq} represents the average noise level on an energy basis for a specific time period. Average noise level is based on the energy content (acoustic energy) of sound. For example, the L_{eq} for one hour is the energy average noise level during that hour. L_{eq} can be thought of as a continuous noise level of a certain period equivalent in energy content to a fluctuating noise level of that same period. L_{eq} is expressed in units of dBA.

Community Noise Equivalent Level

CNEL is an adjusted noise measurement scale of average sound level during a 24-hour period. Due to increased noise sensitivities during evening and night hours, human reaction to sound between 7:00 P.M. and 10:00 P.M. is as if it were actually 5 dBA higher than had it occurred between 7:00 A.M. and 7:00 P.M. From 10:00 P.M. to 7:00 A.M., humans perceive sound as if it were 10 dBA higher. To account for these sensitivities, CNEL figures are obtained by adding an additional 5 dBA to evening noise levels between 7:00 P.M. and 10:00 P.M. and 10 dBA to nighttime noise levels between 10:00 P.M. and 7:00 A.M. Because of this, 24-hour CNEL figures are always higher than their corresponding actual 24-hour averages.

Noise Attenuation

Noise levels decrease as the distance from a noise source to a receiver increases. For each doubling of distance, noise from stationary sources, commonly referred to as "point sources," can decrease by approximately 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots), even greater over soft surfaces (e.g., absorptive surfaces such as soft dirt and grass). For example, if a point source produces a noise level of 89 dBA at a reference distance of 50 feet and over an asphalt surface, its noise level would be approximately 83 dBA at a distance of 100 feet and 77 dBA at 200 feet. Noises generated by mobile sources decrease by approximately 3 dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of distance.

Noise is most audible when traveling by direct line-of-sight, an unobstructed visual path between noise source and receptor. Barriers that break line of sight between sources and receivers, such as walls and buildings, can greatly reduce source noise levels, allowing noise to reach receivers by diffraction only. As a result, sound barriers can reduce source noise levels by up to 20 dBA, though it is infeasible for temporary barriers to reduce noise levels by more than 15 dBA[1] The effectiveness of barriers can be greatly reduced when they are not high or long enough to completely break line of sight from sources to receivers.

It should be noted that because decibels are logarithmic units they cannot be simply added or subtracted. For example, two cars producing 60 dBA of noise each would not produce a combined 120 dBA.

Effects of Noise

The degree to which noise can impact an environment ranges from levels that interfere with speech and sleep to levels that can cause adverse health effects. Most human response to noise subjective. Factors that influence individual responses include the intensity, frequency, and pattern of noise; the amount of background noise present; and the nature of work or human activity exposed to intruding noise.

According to the National Institute of Health (NIH), extended or repeated exposure to sounds at or above 85 dB can cause hearing loss. Sounds of 75 dBA or less, even after continuous exposure, are unlikely to cause hearing loss.[2] The World Health Organization (WHO) reports that adults should not be exposed to sudden "impulse" noise events of 140 dB or greater. For children, this limit is 120 dB.[3]

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1 California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

2 National Institute on Deafness and Other Communication, www.nidcd.nih.gov/health/noise-induced-hearing-loss.

3 World Health Organization, Guidelines for Community Noise, 1999.

Exposure to elevated nighttime noise levels can disrupt sleep, leading to increased levels of fatigue and decreased work or school performance. For the preservation of healthy sleeping environments, the WHO recommends that continuous interior noise levels not exceed 30 dBA L_{eq}, and that individual noise events of 45 dBA or higher be limited.[4] Assuming a conservative exterior to interior sound reduction of 15 dBA, continuous exterior noise levels should therefore not exceed 45 dBA L_{eq}. Individual exterior events of 60 dBA or higher should also be limited.

Some epidemiological studies have shown a weak association between long-term exposure to noise levels of 65-70 dBA L_{eq} and cardiovascular effects including ischemic heart disease and hypertension. However, at this time, data regarding their relationship is largely inconclusive.

People with normal hearing sensitivity can recognize small perceptible changes in sound levels of approximately 3 dBA. Changes of at least 5 dBA can be readily noticeable and may cause community reactions. Sound level increases of 10 dBA or greater are perceived as a doubling in loudness and can provoke a community response.[5] However, few people are highly annoyed at noise levels below 55 dBA L_{eq}.[6]

Regulatory Framework

Federal

Currently, no federal noise standards regulate environmental noise associated with short-term construction activities or the long-term operations of development projects. As such, temporary and long-term noise impacts produced by the Project would be largely regulated by and evaluated by State and City of Los Angeles standards designed to protect public well-being and health.

State

<u>State of California 2017 General Plan Guidelines</u>

The State's 2017 General Plan Guidelines establish county and city standards for acceptable exterior noise levels based on land use. These standards are incorporated into land use planning processes to prevent or reduce noise and land use incompatibilities. Table 2 illustrates State compatibility considerations between various land uses and exterior noise levels.

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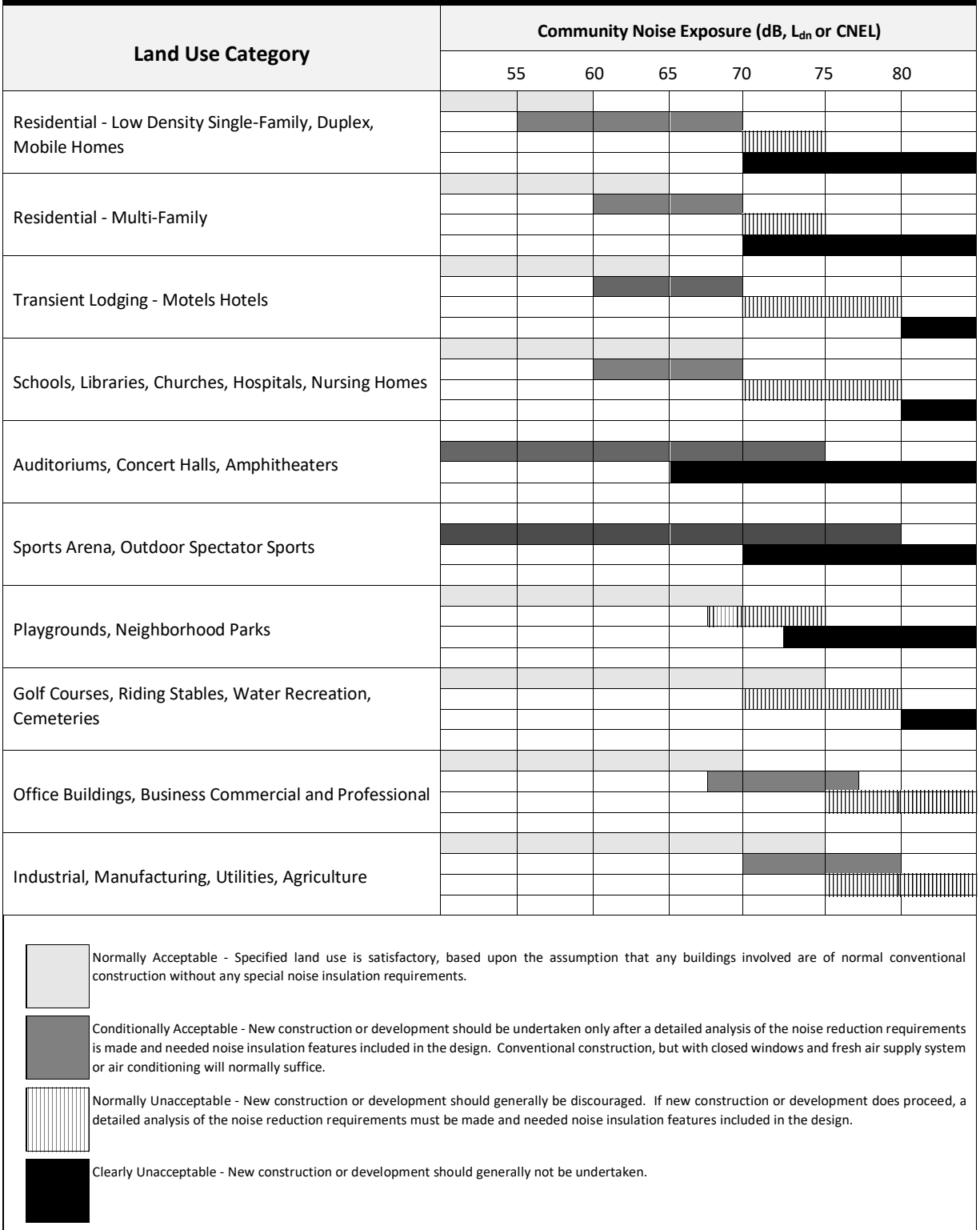
4 Ibid.

5 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

6 World Health Organization, Guidelines for Community Noise, 1999.

TABLE 2: STATE OF CALIFORNIA NOISE/LAND USE COMPATIBILITY MATRIX



Source: California Office of Planning and Research, General Plan Guidelines - Noise Element Guidelines (Appendix D), Figure 2; 2017.

City of Los Angeles

Los Angeles General Plan Noise Element

The City of Los Angeles General Plan includes a Noise Element that contains policies and standards to guide the control of noise to protect residents, workers, and visitors. Its primary goal is to regulate long-term noise impacts that preserve acceptable noise environments for all types of land uses. However, the Noise Element contains no quantitative or other thresholds of significance for evaluating a proposed project's noise impacts. Instead, it adopts the State's guidance on noise and land use compatibility, shown in Table 2 above, "to help guide determination of appropriate land use and mitigation measures vis-à-vis existing or anticipated ambient noise levels."

Los Angeles Municipal Code

The City of Los Angeles Municipal Code (LAMC) contains regulations that would apply to the Project's temporary construction activities and long-term operations. Section 41.40(a) would prohibit Project construction activities between 9:00 P.M. and 7:00 A.M., Monday through Friday. Subdivision (c), below, would further prohibit such activities before 8:00 A.M. or after 6:00 P.M. on any Saturday, or on any Sunday or national holiday.

> *SEC.41.40. NOISE DUE TO CONSTRUCTION, EXCAVATION WORK—WHEN PROHIBITED.*
>
> *(a) No person shall, between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power drive drill, riveting machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this Code.*
>
> *(c) No person, other than an individual homeowner engaged in the repair or construction of his single-family dwelling shall perform any construction or repair work of any kind upon, or any earth grading for, any building or structure located on land developed with residential buildings under the provisions of Chapter I of this Code, or perform such work within 500 feet of land so occupied, before 8:00 A.M. or after 6:00 P.M. on any Saturday or national holiday nor at any time on any Sunday. In addition, the operation, repair, or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited on Saturdays and on Sundays during the hours herein specific…*

Section 112.05 of the LAMC establishes noise limits for powered equipment and hand tools operated within 500 feet of residential zones. Of particular importance to the Project would be subdivision (a), which institutes a maximum noise limit of 75 dBA at 50 feet for the types of construction vehicles and equipment that would be likely used for the Project's construction. However, the LAMC notes that these limitations would not necessarily apply if proven that the Project's compliance would be technically infeasible despite the use of noise-reducing means or methods.

SEC. 112.05. MAXIMUM NOISE LEVEL OF POWERED EQUIPMENT OR POWERED HAND TOOLS

Between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

(a) 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dBA for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dBA for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors.

Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

Section 112.01 of the LAMC would prohibit any amplified noises, especially those from outdoor sources (e.g., outdoor speakers, stereo systems) from exceeding the ambient noise levels of adjacent properties by more than 5 dBA. Any amplified noises would also be prohibited from being audible at any distance greater than 150 feet from the Project's property line as the Project is located within 500 feet of residential zones.

SEC.112.01. RADIOS, TELEVISION SETS, AND SIMILAR DEVICES

(a) It shall be unlawful for any person within any zone of the City to use or operate any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area.

(b) Any noise level caused by such use or operation which is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source, within any residential zone of the City or within 500 feet thereof, shall be a violation of the provisions of this section.

(c) Any noise level caused by such use or operation which exceeds the ambient noise level on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit, by more than five (5) decibels shall be a violation of the provisions of this section.

Section 112.02(a), below, would prevent Project HVAC systems and other mechanical equipment from elevating ambient noise levels at neighboring residences by more than 5 dBA.

SEC.112.02. AIR CONDITIONING, REFRIGERATION, HEATING, PLUMBING, FILTERING EQUIPMENT

(a) It shall be unlawful for any person, within any zone of the city, to operate any air conditioning, refrigeration or heating equipment for any residence or other structure or to operate any pumping, filtering or heating equipment for any pool or reservoir in such manner as to create any noise which would cause the noise level on the premises of any other occupied property … to exceed the ambient noise level by more than five decibels.

Construction Noise

Project Overview

The Project proposes to construct a new 7-story mixed-use building consisting of 100 residential dwelling units and approximately 14,000 square feet of ground floor commercial space. Parking would be provided by 99 on-site stalls.

Existing Conditions

The Project Site is currently developed with a recycling center and a single-family home. Existing noise sources associated with these uses are primarily related to the recycling center's operations.

The Project is located at the eastern corner of Pasadena Avenue and Figueroa Street, a high-traffic intersection with elevated noise levels. An additional major source of noise is the Metro Gold Line right of way, which is approximately 85 feet west of the Project Site. Despite the elevated noise levels of this environment, there are a number of noise-sensitive land uses in the vicinity of the Project Site. Land uses sensitive to noise include residences, transient lodgings, schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks. Local receptors include but are not limited to the following:

- Avenue 39 Residences: This receptor consists of residential uses located along Avenue 39, east of the Project Site between Figueroa Street and Midland Street. The individual residence closest to the Project Site is located at 122 Avenue 39, approximately 10 feet east of the Project Site.

- Avenue 38 Residences: This receptor consists of residential uses located along Avenue 38, southeast of the Project Site between Pasadena Avenue and Midland Street. The individual residences closest to the Project Site is located at 105 Avenue 38, approximately 10 feet east of the Project Site.

- 3727 Marmion Way Residence: This single-family home is located approximately 190 feet west of the Project Site across Pasadena Avenue and the Metro Gold Line right of way.

- Highland View Pentecostal Church: This church is located approximately 195 feet west of the Project Site across Pasadena Avenue and the Metro Gold Line right of way.

- Greayers Oak Mini Park: This park is located approximately 215 feet west of the Project Site across the intersection of Figueroa Street and Pasadena Avenue.

- Figueroa Street Residences: This receptor consists of residential uses located along Figueroa Street that have a clear line of sight to the Project Site, generally residences between approximately Avenue 37 to the south and Avenue 40 to the north

Other noise-sensitive receptors are located at a greater distance from the Project and would experience lesser impacts than those listed above.

DKA Planning took short-term noise readings near the Project Site on August 29, 2018 to determine ambient noise conditions in the neighborhood. As discussed earlier, ambient noise at and around the Project Site is primarily due to vehicle traffic associated with the intersection of Figueroa Street and Pasadena Avenue. Metro Gold Line pass-bys are also a significant, albeit occasional, source of noise. Along Figueroa Street near Pasadena Avenue, noise levels were 70.1 dBA L_{eq}. Noise readings indicated that ambient noise levels at locations setback from Figueroa Street along local residential streets are 63.6 dBA L_{eq}. These noise levels are rather typical of major roadways and residential streets in proximity to them.

Regulated Noise Sources – LAMC Section 41.40 and 112.05

Proposed construction would generate noise during the roughly 24 months of demolition, site preparation, excavation/grading, building construction, and application of architectural coatings. During all construction phases, noise-generating activities could occur at the Project site between the hours of 7:00 A.M. and 9:00 P.M. Monday through Friday, in accordance with Section 41.40(a) of the LAMC. On Saturdays, construction would be permitted to occur between 8:00 A.M. and 6:00 P.M. Construction of the Project would require heavy-duty construction vehicles such as excavators and front-end loaders. Smaller equipment such as forklifts, generators, and various powered hand tools would also be utilized. Off-site secondary noises would be generated by sources such as construction worker vehicles, vendor deliveries, and haul trucks.

Regulatory compliance with LAMC Section 112.05 would ultimately limit any noise levels from powered construction equipment to 75 dBA or below, as the Project site is located within 500 feet of residential zones. Standard, industry-wide “best practices” for construction in urban or otherwise noise-sensitive areas would ensure the Project’s construction noise stays below the City’s 75 dBA threshold of significance. “Best practices” utilized by the Project would include equipping heavy equipment with noise-reducing mufflers and warming-up or staging equipment away from sensitive receptors. Additionally, temporary noise barriers may be erected between the Project Site and nearby residences located along Avenue 39 and Avenue 38.

As shown in Table 3, compliance with LAMC Section 112.05 would ensure that the Project’s powered equipment noise levels at 50 feet do not exceed the section’s maximum 75 dBA limit.

TABLE 3: CONSTRUCTION NOISE LEVELS	
Noise Source	**Noise Level (dBA, 1-hr L_{eq})[1]**
	50 feet
Backhoe	70.6
Dozer	74.7
Excavator	73.7
Front-End Loader	72.1
Welder	70.0

[1] Noise levels derived from the Federal Highway Administration's Roadway Construction Noise Model, version 1.1 (FHWA RCNM 1.1).

With regard to off-site construction-related noise impacts, Section 112.05 of the LAMC does not regulate noise levels from road legal trucks, such as delivery vehicles, concrete mixing trucks, pumping trucks, and haul trucks. However, the operation of these vehicles would still comply with the construction restrictions set forth by Section 41.40 of the LAMC. Haul trucks in particular would access the regional freeway system immediately via Figueroa Street and other major arterials and designated truck routes, eliminating travel on quieter residential streets that would be more susceptible to pronounced noise increases from haul trucks. On major roadways such as Figueroa Street, Project haul trucks would not be capable of substantially raising noise levels as they would represent a small fraction of overall traffic. As a result, the Project's off-site construction noise impact from haul trucks would be considered **less than significant**.

Mitigation Measures

None required.

Operational Noise

On-Site Noise Sources

During Project operations, the development would produce noise from both on- and off-site sources. The direct on-site sources would include the following:

<u>Mechanical Equipment</u>

Regulatory compliance with LAMC Sec.112.02 would ultimately ensure that noises from sources such as heating, air conditioning, and ventilation systems not increase ambient noise levels at neighboring occupied properties by more than 5 dBA. However, given that the Project is located at the intersection of two busy roadways with elevated traffic noises, it is unlikely that the Project's HVAC or other mechanical systems would be capable of substantially altering surrounding noise levels. LAMC Sec.112.02 would also regulate any noises from pool pumping and filtering equipment.

<u>Residential Land Uses</u>

Noise from recurrent activities (e.g., conversation, consumer electronics) and non-recurrent activities (e.g., social gatherings) would elevate ambient noise levels to differing degrees. The City's noise ordinance would provide a means to address nuisances related to residential noises.

Commercial Land Uses

The Project's commercial space would be consistent with its location fronting a busy intersection and would not alter the noise profile of this location. Commercial areas would front Pasadena Avenue and Figueroa Street, away from residential uses located along Avenue 39 and Avenue 38, which are both quieter residential streets.

Auto-Related Activities

The Project's 99 parking spaces would be internally located within two podium-style parking levels. As a result, most auto-related noises (e.g. doors slamming, engines starting, etc.) would be contained within the Project's parking garage and the audibility of this noise off-site would be greatly reduced, especially considering that the location's existing ambient noise profile is dominated by traffic noise from nearby Figueroa Street and Pasadena Avenue.

The impact potential of these on-site operational noise sources would be considered **less than significant**.

Off-Site Noise Sources

As a general rule, a 3 dBA increase in roadway noise levels requires an approximate doubling of roadway traffic volume. However, it is doubtful that the Project would be capable of contributing to such a doubling of traffic on any nearby roadway. First, the Project contains a modest commercial component and only 100 residential dwelling units. Second, the vast majority of Project users would access the site via Figueroa Street and Pasadena Avenue, major local roadways with substantial existing traffic volumes. Third, the Project is within a 5-minute walk of the Heritage Square Metro Gold Line Station, which would substantially reduce the number of vehicle trips generated by the Project. There are also two Metro 83 Line bus stops located near the intersection of Figueroa Street and Pasadena Avenue, which would also reduce the Project's vehicle trip generation. Given these factors, the Project would not generate the number of trips required to double the traffic volumes of any nearby roadways, and its off-site operational noise impact related to vehicle trip generation would be considered **less than significant.**

Mitigation Measures

None required.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? *Less Than Significant Impact.*

Introduction to Vibration

Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, and acceleration. Unlike noise, vibration is not a common environmental problem, as it is unusual for vibration from vehicle sources to be perceptible. Common sources of vibration include trains, construction activities, and certain industrial operations.

Vibration Definitions

This noise analysis discusses vibration in terms of Peak Particle Velocity (PPV).

Peak Particle Velocity

PPV is commonly used to describe and quantify vibration impacts to buildings and other structures. PPV levels represent the maximum instantaneous peak of a vibration signal and are usually measured in inches per second.[7]

Effects of Vibration

High levels of vibration may cause physical personal injury or damage to buildings. However, ground-borne vibration levels rarely affect human health. Instead, most people consider ground-borne vibration to be an annoyance that can disrupt concentration or disturb sleep. Ground-borne vibration can also interfere with certain types of highly sensitive equipment and machines, especially imaging devices used in medical laboratories.

Perceptible Vibration Changes

Unlike noise, ground-borne vibration is not an environmental issue that most people experience every day. Background vibration levels in residential areas are usually well below the threshold of perception for humans, approximately 0.01 inches per second.[8] Perceptible indoor vibrations are most often caused by sources within buildings themselves, such as slamming doors or heavy footsteps. Common outdoor sources of ground-borne vibration include construction equipment, trains, and traffic on rough or unpaved roads. Traffic vibration from smooth and well-maintained roads is typically not perceptible.

Regulatory Framework

For the evaluation of construction-related vibration impacts, FTA guidelines and recommendations are used given the absence of applicable federal, County, and City standards specific to temporary construction activities.

Federal Transit Administration (FTA)

Though not regulatory in nature, the FTA has established vibration impact criteria as it relates to potential building and structural damages, as these are the foremost concern when evaluating the impacts of construction-related vibrations. Table 4 summarizes the FTA's vibration guidelines for building and structural damage.

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7 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, September 2013.

8 Ibid.

TABLE 4: FTA CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: California Department of Transportation, 2013.

Construction Vibration Impacts

As shown in Table 3, construction of the Project would require heavy-duty steel-tracked earthmoving equipment such as bulldozers and excavators. Utilized for rough grading work, such vehicles can produce vibration levels of 0.089 inches per second PPV at a reference distance of 25 feet. However, as is standard practice, smaller vehicles with more precise maneuverability and fine-grading capabilities would be utilized for excavating and trenching when in the proximity of nearby structures. Vehicles such as backhoes, mini-excavators, or skid-steer loaders equipped with hoe or trencher attachments can produce vibration levels of 0.003 inches per second PPV at a reference distance of 25 feet. Other construction vehicles, equipment, and practices would have lesser impacts. Table 5 shows the Project's projected construction vibration impacts at the nearest off-site structures. No receptor would experience potentially damaging levels of groundborne vibration from the Project's construction activities. As a result, the Project's construction vibration impacts would be considered **less than significant**.

TABLE 5: BUILDING DAMAGE VIBRATION LEVELS AT OFF-SITE STRUCTURES – UNMITIGATED

Off-Site Structures	Distance to Project Site (ft.)	Condition	Significant Criteria (in/sec)	Impact (in/sec)	Significant?
122 Avenue 39 – Residential	10	III. Non-engineered timber and masonry	0.2	0.012	No
105 Avenue 38 – Residential	10	III. Non-engineered timber and masonry	0.2	0.012	No

Source: DKA Planning 2018.

Operational Vibration Impacts

Existing Conditions

The Project Site is currently developed with commercial and residential uses that generate negligible vibration from operational sources, such as cars entering and exiting the property, mechanical equipment, and human activity. As such, there are no existing significant operational sources of vibration on the Project Site.

Operational Vibration

During Project operations, there would also be no significant stationary sources of ground-borne vibration, such as heavy equipment or industrial operations. Minimal levels of operational ground-borne vibration in the Project's vicinity would be generated by its related vehicle travel on local roadways, but most vibrations from road vehicles are imperceptible. As a result, the Project's long-term vibration impacts would be considered **less than significant**.

c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? *Less Than Significant Impact.*

The Project's potential to result in a substantial permanent increase in ambient noise levels due to its on- and off-site operational noise sources is discussed in response to checklist question (a). The Project was determined to have a **less than significant** impact in this regard.

d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? *Less Than Significant Impact.*

The Project's potential to result in a substantial temporary or periodic increase in ambient noise levels due to its on- and off-site construction noise sources is also discussed in response to checklist question (a). The Project was determined to have a **less than significant** impact in this regard.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? *No Impact.*

The Project Site is not located within the vicinity of a private airstrip. As a result, this criterion is not applicable to this Project, which would have **no impact** on people residing or working in the Project area.

f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels? *No Impact.*

The Project Site is not located within the vicinity of a private airstrip. As a result, this criterion is not applicable to this Project, which would have **no impact** on people residing or working in the Project area.

TECHNICAL APPENDIX

DKA Planning

NOISE RECEPTOR AND MONITORING LOCATION MAP

NELA Plaza Project

Imagery via Google

1. Figueroa Street

8/29/2018

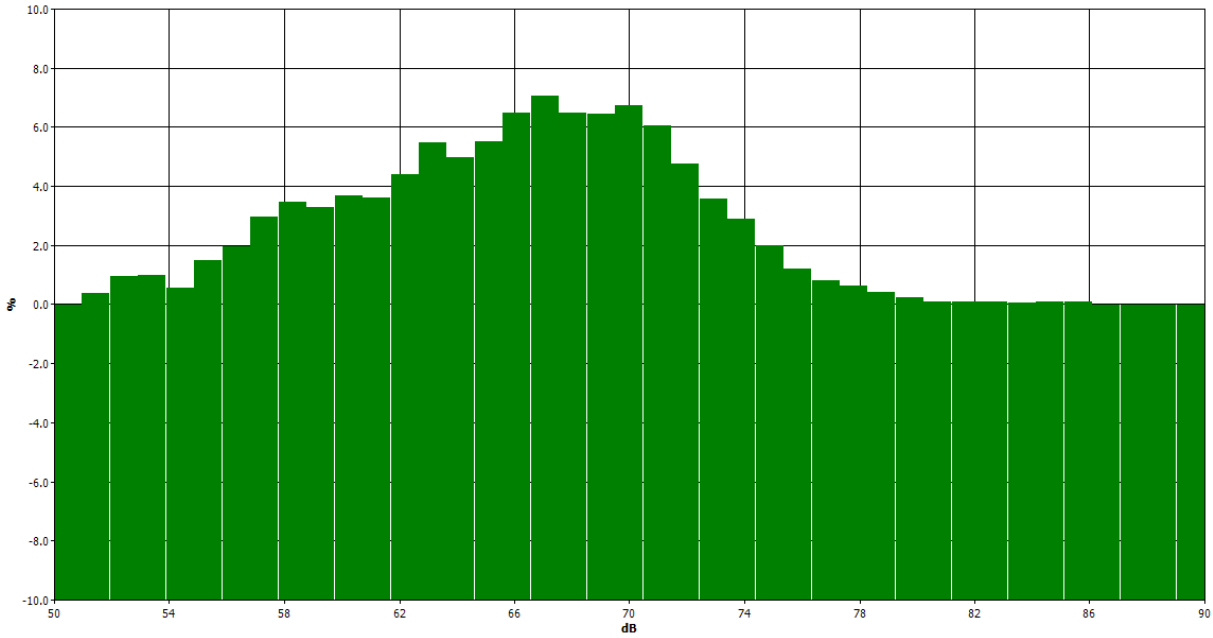
Information Panel

Name	S624_BIJ050019_30082018_144823
Start Time	Wednesday, August 29, 2018, 1:23pm
Stop Time	Wednesday, August 29, 2018, 1:39pm
Device Model Type	SoundPro DL

General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	70.1dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

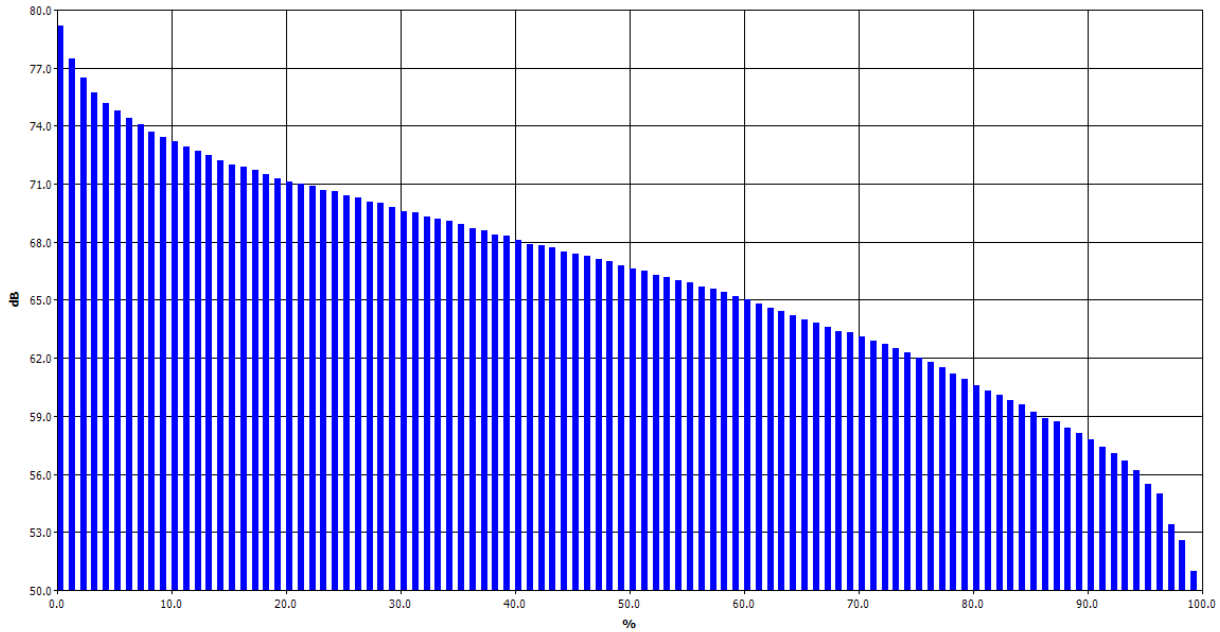
Statistics Chart



Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.01	0.05	0.03	0.05	0.03	0.02	0.03	0.11	0.06	0.39
52	0.08	0.04	0.05	0.06	0.09	0.06	0.11	0.26	0.11	0.10	0.93
53	0.12	0.11	0.05	0.21	0.13	0.09	0.08	0.06	0.07	0.07	0.98
54	0.05	0.07	0.05	0.05	0.05	0.04	0.05	0.05	0.06	0.07	0.54
55	0.12	0.21	0.14	0.20	0.17	0.20	0.15	0.10	0.12	0.10	1.51
56	0.13	0.18	0.19	0.19	0.20	0.14	0.18	0.20	0.24	0.31	1.96
57	0.30	0.33	0.26	0.29	0.28	0.34	0.29	0.26	0.31	0.31	2.97
58	0.26	0.24	0.28	0.27	0.28	0.42	0.46	0.46	0.36	0.44	3.46
59	0.44	0.39	0.20	0.28	0.27	0.28	0.36	0.34	0.38	0.35	3.30
60	0.36	0.41	0.56	0.39	0.40	0.34	0.31	0.33	0.29	0.30	3.69
61	0.31	0.32	0.44	0.30	0.32	0.37	0.36	0.30	0.44	0.44	3.59
62	0.39	0.42	0.45	0.28	0.44	0.42	0.42	0.51	0.55	0.53	4.40
63	0.44	0.62	0.53	0.63	0.64	0.60	0.63	0.46	0.45	0.48	5.48
64	0.47	0.48	0.49	0.53	0.56	0.49	0.47	0.43	0.58	0.49	4.98
65	0.51	0.59	0.63	0.31	0.51	0.64	0.54	0.61	0.55	0.63	5.51
66	0.72	0.81	0.68	0.65	0.61	0.59	0.65	0.62	0.55	0.61	6.48
67	0.67	0.78	0.61	0.75	0.73	0.73	0.58	0.60	0.78	0.84	7.07
68	0.76	0.71	0.78	0.48	0.65	0.59	0.62	0.65	0.62	0.63	6.49
69	0.59	0.62	0.70	0.59	0.82	0.69	0.70	0.57	0.58	0.57	6.44
70	0.66	0.83	0.71	0.61	0.66	0.63	0.64	0.69	0.63	0.66	6.74
71	0.74	0.73	0.77	0.44	0.56	0.52	0.50	0.63	0.60	0.57	6.05
72	0.63	0.53	0.50	0.49	0.44	0.41	0.48	0.44	0.41	0.42	4.75
73	0.37	0.37	0.42	0.37	0.45	0.40	0.38	0.29	0.26	0.25	3.57
74	0.25	0.30	0.40	0.27	0.29	0.28	0.26	0.25	0.32	0.30	2.90
75	0.27	0.20	0.22	0.20	0.17	0.21	0.17	0.19	0.16	0.18	1.98
76	0.19	0.13	0.13	0.13	0.11	0.10	0.12	0.10	0.10	0.12	1.22
77	0.09	0.09	0.13	0.05	0.08	0.09	0.08	0.07	0.05	0.07	0.81
78	0.09	0.07	0.06	0.05	0.07	0.06	0.04	0.05	0.07	0.07	0.64
79	0.05	0.04	0.04	0.05	0.03	0.03	0.04	0.04	0.04	0.06	0.43
80	0.07	0.05	0.04	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.22
81	0.01	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.10
82	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
83	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
84	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.07
85	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.11
86	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

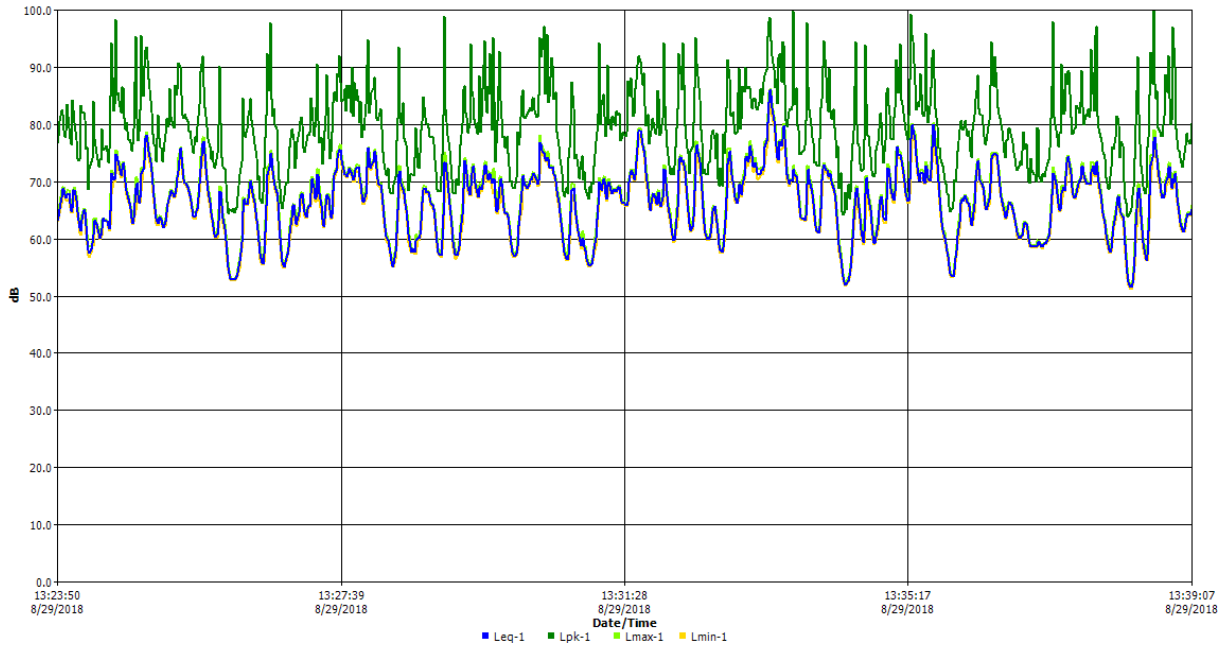
Exceedance Chart



Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		79.2	77.5	76.5	75.7	75.2	74.8	74.4	74.1	73.7
10%	73.4	73.2	72.9	72.7	72.5	72.2	72	71.9	71.7	71.5
20%	71.3	71.1	71	70.9	70.7	70.6	70.4	70.3	70.1	70
30%	69.8	69.6	69.5	69.3	69.2	69.1	68.9	68.7	68.6	68.4
40%	68.3	68.1	67.9	67.8	67.7	67.5	67.4	67.3	67.1	67
50%	66.8	66.6	66.5	66.3	66.2	66	65.9	65.7	65.6	65.4
60%	65.2	65	64.8	64.6	64.4	64.2	64	63.8	63.6	63.4
70%	63.3	63.1	62.9	62.7	62.5	62.3	62	61.8	61.5	61.2
80%	60.9	60.6	60.3	60.1	59.8	59.6	59.2	58.9	58.7	58.4
90%	58.1	57.8	57.4	57.1	56.7	56.2	55.5	55	53.4	52.6
100%	51									

Logged Data Chart



2. Figueroa Street – 170ft Setback

8/29/2018

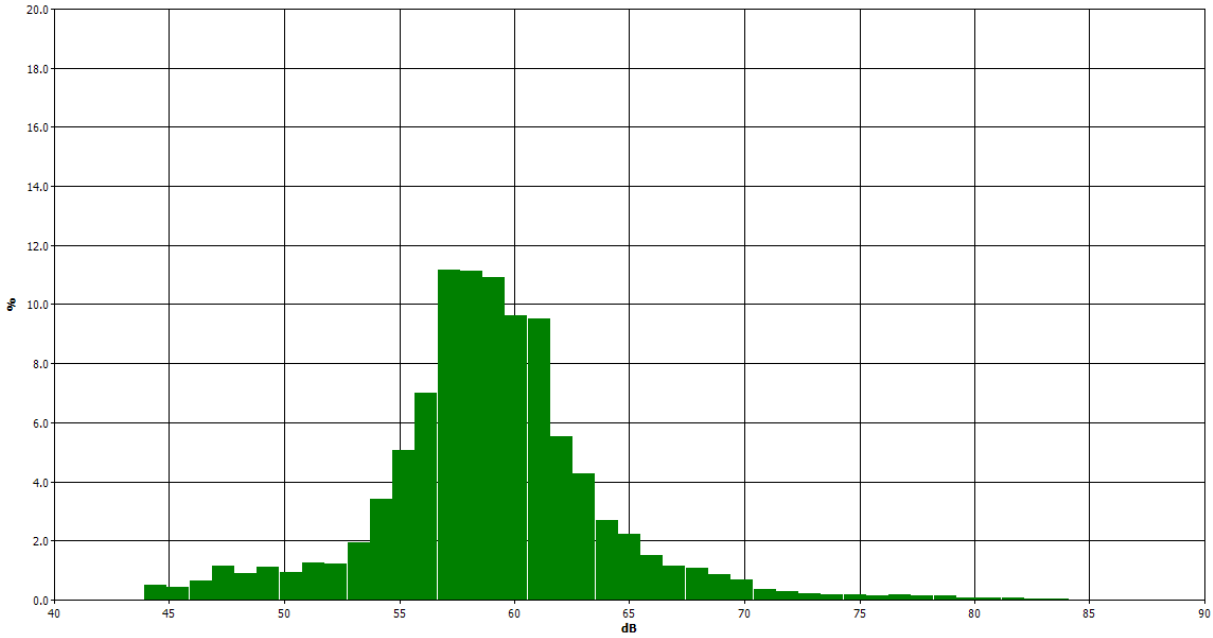
Information Panel

Name	S625_BIJ050019_30082018_144823
Start Time	Wednesday, August 29, 2018, 1:39pm
Stop Time	Wednesday, August 29, 2018, 1:54pm
Device Model Type	SoundPro DL

General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	63.6dB	Exchange Rate	1	3dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Exchange Rate	2	3dB
Weighting	2	C	Response	2	SLOW

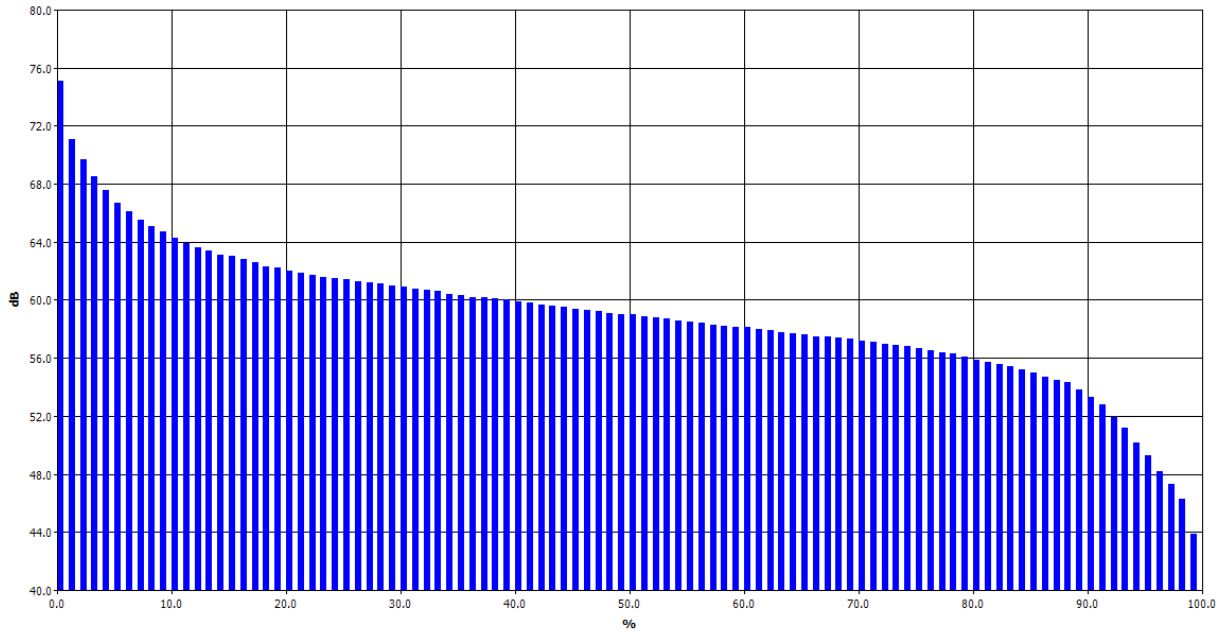
Statistics Chart



Statistics Table

dB	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.06	0.10	0.04	0.02	0.05	0.03	0.04	0.06	0.04	0.07	0.51
45	0.09	0.07	0.03	0.02	0.03	0.04	0.04	0.04	0.03	0.02	0.41
46	0.02	0.02	0.02	0.01	0.03	0.03	0.05	0.14	0.14	0.16	0.63
47	0.09	0.07	0.11	0.16	0.20	0.12	0.11	0.09	0.10	0.10	1.15
48	0.10	0.10	0.07	0.08	0.06	0.07	0.08	0.11	0.06	0.15	0.89
49	0.05	0.06	0.11	0.08	0.10	0.16	0.18	0.16	0.13	0.09	1.13
50	0.10	0.10	0.05	0.11	0.09	0.10	0.07	0.10	0.06	0.16	0.93
51	0.09	0.10	0.14	0.17	0.11	0.11	0.15	0.13	0.14	0.13	1.27
52	0.12	0.12	0.12	0.09	0.11	0.10	0.12	0.11	0.12	0.21	1.22
53	0.21	0.18	0.17	0.15	0.17	0.17	0.17	0.19	0.27	0.24	1.93
54	0.20	0.23	0.22	0.25	0.58	0.36	0.54	0.35	0.35	0.34	3.42
55	0.38	0.40	0.49	0.55	0.47	0.54	0.49	0.69	0.53	0.52	5.05
56	0.55	0.57	0.42	0.72	0.76	0.91	0.67	0.81	0.76	0.84	6.99
57	0.88	1.00	1.02	1.19	1.10	1.24	1.05	1.10	1.22	1.37	11.18
58	1.26	1.00	1.02	1.18	1.20	1.21	1.21	1.10	0.96	0.98	11.13
59	1.15	1.19	0.92	0.95	1.08	1.13	1.04	1.18	1.09	1.20	10.92
60	1.01	0.97	1.21	1.23	0.95	0.88	0.70	0.85	0.85	0.94	9.61
61	1.11	1.02	0.91	1.05	0.95	0.96	0.90	0.97	0.90	0.74	9.52
62	0.69	0.72	0.67	0.40	0.67	0.50	0.44	0.46	0.50	0.50	5.54
63	0.55	0.52	0.49	0.47	0.38	0.42	0.44	0.41	0.31	0.28	4.27
64	0.29	0.37	0.32	0.27	0.26	0.27	0.22	0.22	0.25	0.22	2.69
65	0.26	0.31	0.27	0.17	0.25	0.26	0.18	0.20	0.19	0.15	2.24
66	0.14	0.15	0.16	0.14	0.17	0.18	0.18	0.15	0.14	0.10	1.51
67	0.11	0.11	0.13	0.12	0.11	0.13	0.13	0.11	0.10	0.09	1.14
68	0.09	0.11	0.13	0.08	0.11	0.10	0.16	0.12	0.08	0.09	1.07
69	0.08	0.07	0.09	0.06	0.07	0.10	0.07	0.09	0.09	0.12	0.85
70	0.13	0.14	0.09	0.05	0.06	0.05	0.05	0.05	0.05	0.04	0.70
71	0.03	0.04	0.04	0.03	0.07	0.03	0.02	0.03	0.02	0.03	0.36
72	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.28
73	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.22
74	0.03	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.19
75	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.16
76	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.02	0.01	0.15
77	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.16
78	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.16
79	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.15
80	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
81	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.07
82	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.06
83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
84	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

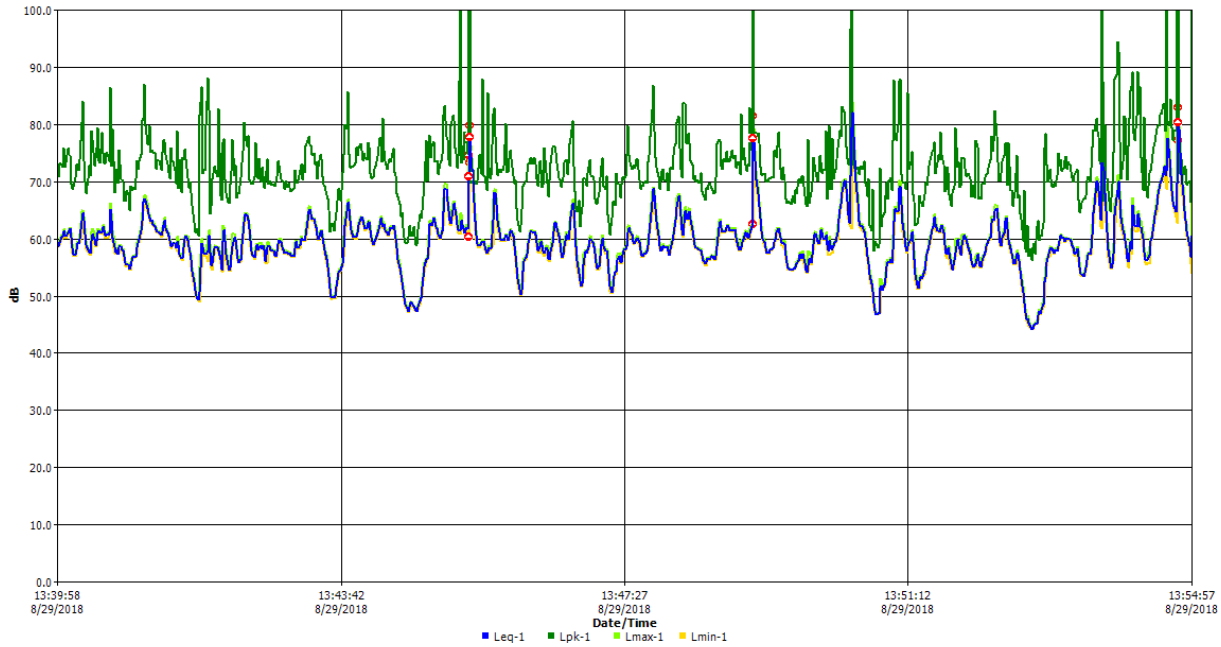
Exceedance Chart



Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		75.1	71.1	69.7	68.5	67.6	66.7	66.1	65.5	65.1
10%	64.7	64.3	63.9	63.6	63.4	63.1	63	62.8	62.6	62.3
20%	62.2	62	61.9	61.7	61.6	61.5	61.4	61.3	61.2	61.1
30%	61	60.9	60.8	60.7	60.6	60.4	60.3	60.2	60.2	60.1
40%	60	59.9	59.8	59.7	59.6	59.5	59.4	59.3	59.2	59.1
50%	59	59	58.9	58.8	58.7	58.6	58.5	58.4	58.3	58.2
60%	58.1	58.1	58	57.9	57.8	57.7	57.6	57.5	57.5	57.4
70%	57.3	57.2	57.1	57	56.9	56.8	56.7	56.5	56.4	56.3
80%	56.1	55.9	55.7	55.6	55.4	55.2	55	54.7	54.5	54.3
90%	53.8	53.3	52.8	51.9	51.2	50.2	49.3	48.2	47.3	46.3
100%	43.9									

Logged Data Chart



Construction Vibration - PPV

Receptor: 122 Avenue 39 - Residential
Equipment: Small Dozer

Source PPV (in/sec)	0.003
Reference Distance (ft)	25
Ground Factor (N)	1.5
Distance (ft)	10
Unmitigated Vibration Level (in/sec)	**0.012**

Receptor: 105 Avenue 38 - Residential
Equipment: Small Dozer

Source PPV (in/sec)	0.003
Reference Distance (ft)	25
Ground Factor (N)	1.5
Distance (ft)	10
Unmitigated Vibration Level (in/sec)	**0.012**

Sources

California Department of Transportation (Caltrans), *Transportation and Construction Vibration Guidance Manual*, September 2013.
Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, May 2006.

AIR QUALITY IMPACT ANALYSIS

3802 Pasadena Avenue Mixed-Use Project
City of Los Angeles

Project # 17-717-101

Prepared for:

NAIM ASSOCIATES
Architecture & Development
Penthouse, 144 N. Wetherly Drive
West Hollywood, CA 90048

Prepared by:

ENVICOM CORPORATION
4165 E. Thousand Oaks Boulevard, Suite 290
Westlake Village, CA 91362

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Appendix A CalEEMod2016.3.1 Computer Model Output

1.0 INTRODUCTION

The purpose of this Air Quality Impact Analysis is to identify, describe, and evaluate the significance of potential air quality impacts resulting from the construction and operation of a proposed mixed-use development in the City of Los Angeles. This analysis also includes a discussion and evaluation of potential greenhouse gas (GHG) emissions.

2.0 ATMOSPHERIC SETTING

The project site is located in the Northeast Los Angeles Community Plan Area of the City of Los Angeles, within the South Coast Air Basin (air basin). The air basin is bounded by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and San Diego County to the south.

In addition to being a metropolitan area with a high level of human activity, the topography and climate of Southern California combine to produce unhealthful air quality in the air basin. Low temperature inversions, light winds, shallow vertical mixing, and extensive sunlight, in combination with topographical features such as adjacent mountain ranges that hinder dispersion of air pollutants, can result in degraded air quality within the basin.

3.0 PROPOSED DEVELOPMENT

The proposed project would develop an infill site located at 3802 Pasadena Avenue in the City of Los Angeles. The project would include removal of an existing recycling facility and a residence, and would construct a 6-story mixed-use structure for multi-family residential and commercial uses with a total of 69 dwelling units (59 residences and 10 live/work studio lofts) and one retail plus loft unit (1,188 square feet). Onsite parking would be located within the structure on the ground floor, with 76 floor-level spaces and hydraulic lifts providing an additional 39 spaces when raised above vehicles parked at floor-level. Common area amenities within the structure would include a community room, screening room, and exercise room. The proposed project would occupy an approximately 1.06-acre site. The site is bordered by existing residences and an auto repair facility. The metro gold line lies west of the site on the opposite side of Pasadena Avenue.

Construction of the project would require demolition of the existing recycling facility and residence, and construction of the proposed building. Grading of the site would be minimal as the previously developed site is relatively level and no subterranean parking is proposed.

4.0 AIR QUALITY SETTING

Ambient Air Quality Standards

National and State ambient air quality standards (AAQS) are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard. National and State

AAQS currently in effect in California are shown in **Table 1**. Sources and health effects of various pollutants are shown in **Table 2**.

Table 1
Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			
See footnotes on next page …						

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (5/4/16)

Table 1
Table 1 (Continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Examples of Sources	Health Effects
Particulate Matter (PM-2.5, PM-10)	• Cars and trucks (especially diesels) • Fireplaces, woodstoves • Windblown dust from roadways, agriculture and construction	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death
Ozone (O_3)	• Precursor sources*: motor vehicles, industrial emissions, and consumer products	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation
Carbon Monoxide (CO)	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves	• Chest pain in heart patients ** • Headaches, nausea ** • Reduced mental alertness ** • Death at very high levels **
Nitrogen Dioxide (NO_2)	• See carbon monoxide sources	• Increased response to allergens

Source: California Air Resources Board, ARB Fact Sheet: Air Pollution and Health, webpage (reviewed December 2, 2009), accessed at https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm March 1, 2017.
* Ozone is not generated directly by these sources. Rather chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.
** Health effects from CO exposures occur at levels considerably higher than ambient.

Baseline Air Quality

In the air basin, the agencies designated to develop the regional Air Quality Management Plan (AQMP) are the SCAQMD and the Southern California Association of Governments (SCAG). The 2012 Air Quality Management Plan (AQMP) was adopted in 2013, and an updated AQMP for 2016 is in the planning stages as AQMPs are required to be updated every three years.

Primary pollutants are those pollutants that are emitted in their already unhealthful form, the effects of which can generally be more closely linked to the specific location where they are emitted. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the air basin for PM-10, an aggressive dust control program is required for construction projects to control fugitive dust. Secondary pollutants require time to transform from a more benign form to a more unhealthful contaminant, and their impact is more regional and may be far from the source.

Existing levels of ambient air quality and historical trends and projections in the project area are best documented from measurements made by the SCAQMD. The geographically closest SCAQMD air quality monitoring station to the project is in downtown Los Angeles, providing monitoring data for regional air pollutants such as ozone, carbon monoxide (CO), nitrogen oxides (NOx), and 10-micron diameter or less particulate matter (PM-10 and PM-2.5). Table 3 provides the last five years of data from this monitoring station.

Ozone, the primary ingredient in photochemical smog, is an important pollution problem in the Los Angeles basin. As shown in Table 3, air samples at the downtown Los Angeles SCAQMD station have exceeded the federal 8-hour standard on three days in the last five years. Similarly, five days in the last five years have exceeded the California one-hour standard. The state 8-hour standard has been exceeded a total of fifteen times in the last five years.

The downtown Los Angeles area experiences occasional violations of standards for PM-10, which possibly result from periodic high wind conditions, accumulated soot, roadway dust, or byproducts of chemical reactions during warm days. In the past five years, downtown Los Angeles has experienced a violation of the State PM-10 standard between one and nine percent annually. The federal PM-10 standard has not been exceeded in the past five years, while the current federal 24-hour AAQS for PM-2.5 has been exceeded no more than two percent of all monitored days since 2011.

Primary pollutants such as CO and NOX are low near the project site because there is substantial excess dispersive capacity to accommodate localized emissions of those pollutants. As shown in Table 3, allowable levels of these criteria pollutants have not been exceeded in the past five years.

Table 3
Project Area Air Quality Monitoring Summary 2011-2015
(Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2011	2012	2013	2014	2015
Ozone					
1-Hour > 0.09 ppm (S)	0	0	0	3	2
8-Hour > 0.07 ppm (S)	0	2	0	7	6
8- Hour > 0.075 ppm (F)	0	1	0	2	0
Max. 1-Hour Conc. (ppm)	0.087	0.093	0.081	0.113	0.104
Max. 8-Hour Conc. (ppm)	0.065	0.077	0.069	0.094	0.074
Carbon Monoxide					
8-Hour > 9. ppm (S, F)	0	0	0	0	0
Max 8-Hour Conc. (ppm)	2.4	1.9	2.0	2.0	1.8
Nitrogen Dioxide					
1-Hour > 0.18 ppm (S)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.110	0.077	0.090	0.082	0.079
Inhalable Particulates (PM-10)					
24-Hour > 50 $\mu g/m^3$ (S)	1/59	4/60	1/60	32/359	26/335
24-Hour > 150 $\mu g/m^3$ (F)	0/59	0/60	0/60	0/359	0/335
Max. 24-Hr. Conc. ($\mu g/m^3$)	53	80	57	87	88
Ultra-Fine Particulates (PM-2.5)					
24-Hour > 35 $\mu g/m^3$ (F)	4/331	4/342	1/344	6/341	7/342
Max. 24-Hr. Conc. ($\mu g/m^3$)	49.3	58.7	43.1	59.9	56.4

Source: SCAQMD Monitoring Reports from the Central LA Station
S=State Standard F=Federal Standard

5.0 AIR QUALITY IMPACT

Significance Criteria

Air quality impacts are considered significant if they cause clean air standards to be violated where they are currently met, or if they substantially contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Based on Appendix G of the California CEQA Guidelines, a project would have a potentially significant impact if it:

a. Conflicts with or obstructs implementation of the applicable air quality plan.
b. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.
c. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
d. Exposes sensitive receptors to substantial pollutant concentrations.
e. Creates objectionable odors affecting a substantial number of people.

Air Quality Planning

While conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use designations could indicate conformance with the current AQMP, the air quality impact significance for this proposed project has been analyzed on a project-specific basis to determine consistency with SCAQMD project impact evaluation thresholds. For determining project significance under CEQA, the SCAQMD has designated emissions level thresholds for evaluating regional air quality impact significance. Projects in the SCAQMD with daily emissions that exceed emission thresholds shown in Table 4 could result in significant impacts.

Table 4
Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NO_X	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SO_X	150	150
Source: SCAQMD CEQA Air Quality Handbook, November 1993 Rev.		

Additional Indicators

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.

- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

For the proposed project, diesel exhaust toxic air contaminants (TAC's) emitted from construction equipment would occur over a relatively brief period while construction is occurring. Health effects of TAC's are evaluated based on an accumulation over an assumed 70-year lifespan. Any measurable diesel TAC exposure from the project would occur for only the brief portion of this project's lifetime during construction, estimated to be less than two years.

The SCAQMD's resolution activity for odor compliance is mandated under California Health & Safety Code Section 41700, and falls under SCAQMD Rule 402. This rule on Public Nuisance Regulation states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."

Sensitive Receptors

Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. Such persons are called "sensitive receptors." Sensitive population groups include young children, the elderly and the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma). For this project, nearby residences are considered to be sensitive uses because they may be occupied for extended periods, and residents may be outdoors when exposure is highest.

Construction Activity Impacts

Dust is typically the primary concern during construction of residential tracts where land clearing and grading are proposed. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Emission rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). These parameters are not known with any reasonable certainty prior to project development and may change from day to day. Any assignment of specific parameters to an unknown future date is speculative and conjectural.

Because of the inherent uncertainty in the predictive factors for estimating fugitive dust generation, regulatory agencies typically use one universal "default" factor based on the area disturbed assuming that all other input parameters into emission rate prediction fall into midrange average values. This assumption may or may not be totally applicable to site-specific conditions on the proposed project site. As noted previously, emissions estimation for project-specific fugitive dust sources is therefore characterized by a considerable degree of imprecision.

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

Estimated construction emissions were modeled using CalEEMod 2016.3.1 to identify maximum daily emissions for each pollutant during project construction. The output reports from CalEEMod are included as **Appendix A** to this report. Construction emissions were modeled based on the construction equipment fleet list and approximate duration of each construction phase shown in **Table 5**. Utilizing this indicated equipment fleet, for the proposed project, the project's maximum daily construction emissions as calculated by CalEEMod are listed in **Table 6**.

All construction grading projects in the County of Los Angeles must comply with the requirements of SCAQMD Rule 403, Fugitive Dust, which requires the implementation of Reasonably Available Control Measures (RACM) for all fugitive dust sources. SCAQMD Rule 403, Control Measure 08-2 states that during earth moving activities, project's are required to "Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction". Therefore, pursuant to SCAQMD Rule 403, the project would be required implement adequate watering of exposed surfaces during grading. As seen in Table 6, peak daily construction activity emissions of criteria air pollutants are estimated to be far below SCAQMD thresholds.

Table 5
Conceptual Construction Equipment Fleet

Phase Name and Duration	Equipment [a]
Demolition (20 days)	1 Concrete/Industrial Saw
	1 Rubber-tired Dozer
	3 Loader/Backhoes
Grading (5 days)	1 Grader
	1 Loader/Backhoe
Construction (200 days)	1 Crane
	1 Forklift
	1 Generator set
	1 Loader/Backhoe
	3 Welders
Paving (10 days)	1 Paver
	1 Paving equipment
	1 Roller
Architectural Coating (15 days)	1 Air Compressor
[a] CalEEMod output, March 9, 2017	

Table 6
Maximum Daily Construction Emissions (pounds/day)

	ROG	NO_X	CO	SO_2	PM-10	PM-2.5
Maximum Daily Construction Emissions	59.1	28.7	19.5	0.04	3.1	1.8
SCAQMD Thresholds	75	100	550	150	150	55
Significant Impact? Y/N	No	No	No	No	No	No
Source: CalEEMod output, March 9, 2017						

Localized Significance Thresholds Analysis

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: NO_X, CO, PM-10, and PM-2.5. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables provide thresholds for 25, 50, 100, 200 and 500-meter source-receptor distances. Due to existing residences located within 25 meters of the project boundary, the 25-meter thresholds were considered for this project. LST pollutant screening level concentration data is currently published for 1, 2 and 5-acre sites. For this project, thresholds for a 1-acre site was used. This evaluation is based on estimated daily construction emissions for the phase and year representing the highest daily emissions. Daily averages would be lower than the reported maximum amounts.

Table 7 shows the relevant thresholds and the estimated peak daily onsite emissions during the construction phases that would generate the highest level of onsite emissions for each pollutant evaluated for LST impacts. All construction projects in the City of Los Angeles must comply with the requirements of SCAQMD Rule 403, Fugitive Dust, which requires the implementation of Reasonably Available Control Measures (RACM) for all fugitive dust sources, and the AQMP, which identifies Best Available Control Measures (BACM) and Best Available Control Technologies (BACT) for area sources and point sources, respectively. SCAQMD Rule 403, Control Measure 08-2 states that during earth moving activities, project's are required to "Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction". Therefore, pursuant to SCAQMD Rule 403, the project would be required implement adequate watering of exposed surfaces during grading. As seen in Table 7, the peak onsite emissions during construction would not exceed the applicable SCAQMD LSTs, and as such, potential LST impacts would be less than significant.

Table 7
Local Significance Thresholds (LST)
and Peak Daily Onsite Emissions (pounds/day)

LST 1.0 acre/25 meters Central LA	**NO_X**	**CO**	**PM-10**	**PM-2.5**
LST Threshold	74	680	5	3
Peak Onsite Daily Emissions	**28.7**	**19.5**	**3.1**	**1.8**
Significant Impact? Y/N	No	No	No	No
Source: CalEEMod output, March 9, 2017				

Operational Impacts

During operations, the proposed residences would result in air quality emissions of criteria pollutants from area sources, energy sources, and mobile sources. The SCAQMD thresholds for air quality impacts from operations are shown above in Table 4. Operations of the proposed residential development would not be anticipated to exceed SCAQMD significance thresholds for criteria pollutants, as shown in **Table 8**. As seen in Table 8, the project's operational emissions would be far below SCAQMD thresholds; therefore, operational impacts would be less than significant.

Table 8
Maximum Daily Operations Emissions (pounds/day)

Daily Emissions	ROG	NO_X	CO	SO_2	PM-10	PM-2.5
Area	3.23	0.09	7.38	0.00	0.04	0.04
Energy	0.03	0.25	0.11	0.00	0.02	0.02
Mobile	1.45	6.71	19.75	0.06	4.58	1.27
Total	4.71	7.05	27.24	0.06	4.64	1.33
SCAQMD Thresholds	55	55	550	150	150	55
Significant Impact? Y/N	No	No	No	No	No	No
Source: CalEEMod output, March 9, 2017.						

6.0 GREENHOUSE GAS EMISSIONS (GHG) IMPACT

Greenhouse gas emissions (GHG) emitted by human activity are implicated in global climate change. These GHGs contribute to an increase in the temperature of the earth's atmosphere by preventing long wavelength heat radiation in some parts of the infrared spectrum from leaving the atmosphere. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel combustion in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions. Residential uses in California contribute 7 percent to the GHG statewide burden plus a proportionate share of in-and out-of-state electrical generation emissions (ARM, 2014).

AB 32 is one of the most significant pieces of environmental legislation regarding greenhouse gas emissions that California has adopted. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate "early action" control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California's GHG emissions be reduced to 1990 levels.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Thresholds of Significance

Based on the CEQA Appendix G guidelines, a project would have a potentially significant GHG impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility. Emissions identification may be quantitative, qualitative or based on performance standards. This analysis relies on the quantified GHG emissions estimated for this project using CalEEMod.

To determine a significance threshold for GHG emissions, in September 2010 the SCAQMD CEQA Significance Thresholds GHG Working Group recommended a threshold of 3,500 Metric Tons (MT) Carbon Dioxide equivalent (CO_2e) for residential use projects. This 3,500 MT/year recommendation has been used as a guideline for this analysis.

Construction Activity GHG Emissions

During project construction, the CalEEMod computer model estimates that the construction activities would generate a total of 321 MT CO_2e emissions. SCAQMD GHG emissions evaluation guidance is to amortize construction emissions over a 30-year lifetime, which results in a project amortized annual emissions of approximately 10.7 MT CO_2e emissions.

Project Operational GHG Emissions

Based on the CalEEMod output files found in the appendix of this report, the project's annual operational GHG emissions from a combination of area sources, energy use, water use, and waste disposal would be 1,409.2 MT CO_2e. With the addition of the amortized construction GHG emissions discussed above, the project would result in annual emissions of approximately 1,419.9 MT CO_2e, which is well below the threshold guideline. Therefore, the project's operational GHG emissions impact would not be significant.

The project's net GHG emissions would be even lower than the estimated 1,419.9 MT CO_2e, due to reductions from the removal of existing uses, which were not incorporated into the CalEEMod calculations. Additionally, the project proposes a diverse land use mix, and is near public transit rail and bus facilities, which could reduce vehicle use and therefore further reduce GHG emissions. These reductions would affect the mobile source category of GHG emissions estimate of 947 MT CO_2e, which is the primary source of GHG emissions for the project. Based on the project's Transportation Impact Study MOU,[1] the project's net trip generation after credits for removal of existing uses and a TOD Overlay Zone adjustment, would be 389 average daily trips, which would be approximately 60 percent of the trip generation evaluated by the CalEEMod calculation. Although not modeled by CalEEMod for this project, a reduction of the estimated mobile source emission by 60 percent would result in a combined GHG emission rate of approximately 1,040.9 MT CO_2e. As stated above, the project's operational GHG emissions impact would not be significant.

[1] Transpo group, Memorandum to LADOT- Metro Development Review, February 21, 2017.

Appendix A

CalEEMod2016.3.1
Computer Model Output

3802 N Pasadena Ave Mixed-Use

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	24.80	1000sqft	0.00	24,800.00	0
Strip Mall	1.20	1000sqft	0.03	1,200.00	0
Apartments Mid Rise	89.00	Dwelling Unit	1.06	137,920.00	255

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Summer

Project Characteristics -

Land Use - 1.06 ac lot, retail and parking within same lot area
137,920 res sq ft, 1,200 ret sq ft,

Construction Phase - No site prep phase, grading 5 days, coating 15 days

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - grader and backhoe/loader

Off-road Equipment -

Off-road Equipment - No site prep phase

Demolition -

Grading - No site prep phase

Vehicle Trips - No additional trips from onsite parking

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Trips and VMT - No site prep phase

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	PhaseEndDate	2/9/2018	2/16/2018
tblConstructionPhase	PhaseEndDate	4/3/2017	3/30/2017
tblConstructionPhase	PhaseStartDate	4/8/2017	4/10/2017

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Summer

tblConstructionPhase	PhaseStartDate	4/4/2017	4/3/2017
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	75.65	0.00
tblFireplaces	NumberNoFireplace	8.90	0.00
tblFireplaces	NumberWood	4.45	0.00
tblGrading	AcresOfGrading	1.88	1.50
tblLandUse	BuildingSpaceSquareFeet	89,000.00	137,920.00
tblLandUse	LandUseSquareFeet	89,000.00	137,920.00
tblLandUse	LotAcreage	0.57	0.00
tblLandUse	LotAcreage	2.34	1.06
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblWoodstoves	NumberCatalytic	4.45	0.00
tblWoodstoves	NumberNoncatalytic	4.45	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2017	3.5074	28.6988	19.4932	0.0355	1.4098	1.6589	3.0687	0.2481	1.5511	1.7927	0.0000	3,406.1824	3,406.1824	0.6527	0.0000	3,418.6139
2018	59.1162	19.4565	18.3963	0.0352	0.9279	1.0776	2.0055	0.2481	1.0401	1.2882	0.0000	3,365.4574	3,365.4574	0.4701	0.0000	3,377.2090
Maximum	**59.1162**	**28.6988**	**19.4932**	**0.0355**	**1.4098**	**1.6589**	**3.0687**	**0.2481**	**1.5511**	**1.7927**	**0.0000**	**3,406.1824**	**3,406.1824**	**0.6527**	**0.0000**	**3,418.6139**

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					
2017	3.5074	28.6988	19.4932	0.0355	1.4098	1.6589	3.0687	0.2481	1.5511	1.7927	0.0000	3,406.1824	3,406.1824	0.6527	0.0000	3,418.6139
2018	59.1162	19.4565	18.3963	0.0352	0.9279	1.0776	2.0055	0.2481	1.0401	1.2882	0.0000	3,365.4574	3,365.4574	0.4701	0.0000	3,377.2089
Maximum	**59.1162**	**28.6988**	**19.4932**	**0.0355**	**1.4098**	**1.6589**	**3.0687**	**0.2481**	**1.5511**	**1.7927**	**0.0000**	**3,406.1824**	**3,406.1824**	**0.6527**	**0.0000**	**3,418.6139**

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Summer

	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	N20	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

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	3.2309	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404	0.0000	13.2269	13.2269	0.0130	0.0000	13.5517
Energy	0.0294	0.2513	0.1072	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.7774	320.7774	6.1500e-003	5.8800e-003	322.6837
Mobile	1.4557	6.7176	19.7533	0.0601	4.5162	0.0676	4.5838	1.2088	0.0635	1.2724		6,096.9754	6,096.9754	0.3494		6,105.7107
Total	**4.7160**	**7.0544**	**27.2421**	**0.0621**	**4.5162**	**0.1284**	**4.6445**	**1.2088**	**0.1243**	**1.3331**	**0.0000**	**6,430.9797**	**6,430.9797**	**0.3686**	**5.8800e-003**	**6,441.9460**

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	3.2309	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404	0.0000	13.2269	13.2269	0.0130	0.0000	13.5517
Energy	0.0294	0.2513	0.1072	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.7774	320.7774	6.1500e-003	5.8800e-003	322.6837
Mobile	1.4344	6.5783	19.2085	0.0582	4.3699	0.0656	4.4354	1.1697	0.0616	1.2313		5,909.5522	5,909.5522	0.3397		5,918.0450
Total	**4.6947**	**6.9151**	**26.6973**	**0.0602**	**4.3699**	**0.1263**	**4.4962**	**1.1697**	**0.1224**	**1.2920**	**0.0000**	**6,243.5565**	**6,243.5565**	**0.3589**	**5.8800e-003**	**6,254.2803**

	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	N20	CO2e
Percent Reduction	**0.45**	**1.98**	**2.00**	**2.98**	**3.24**	**1.59**	**3.19**	**3.24**	**1.54**	**3.08**	**0.00**	**2.91**	**2.91**	**2.63**	**0.00**	**2.91**

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	3/3/2017	3/30/2017	5	20	
2	Site Preparation	Site Preparation	3/31/2017	3/30/2017	5	0	
3	Grading	Grading	4/3/2017	4/7/2017	5	5	
4	Building Construction	Building Construction	4/10/2017	1/12/2018	5	200	
5	Paving	Paving	1/13/2018	1/26/2018	5	10	
6	Architectural Coating	Architectural Coating	1/27/2018	2/16/2018	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 279,288; Residential Outdoor: 93,096; Non-Residential Indoor: 1,800; Non-Residential Outdoor: 600; Striped Parking Area: 1,488 (Architectural Coating – sqft)

OffRoad Equipment

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
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
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
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
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	108.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	75.00	14.00	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	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

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					1.1701	0.0000	1.1701	0.1772	0.0000	0.1772			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404		2,421.4229	2,421.4229	0.6125		2,436.7347
Total	**2.7625**	**26.7594**	**15.5573**	**0.0241**	**1.1701**	**1.6477**	**2.8178**	**0.1772**	**1.5404**	**1.7175**		**2,421.4229**	**2,421.4229**	**0.6125**		**2,436.7347**

3.2 Demolition - 2017

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	0.0610	1.8771	0.3834	4.4200e-003	0.0944	9.9100e-003	0.1043	0.0259	9.4900e-003	0.0354		476.7340	476.7340	0.0333		477.5667
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
Worker	0.0813	0.0624	0.8003	1.6900e-003	0.1453	1.3500e-003	0.1467	0.0385	1.2500e-003	0.0398		167.5593	167.5593	6.9600e-003		167.7332
Total	**0.1423**	**1.9394**	**1.1836**	**6.1100e-003**	**0.2397**	**0.0113**	**0.2510**	**0.0644**	**0.0107**	**0.0751**		**644.2933**	**644.2933**	**0.0403**		**645.2999**

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					1.1701	0.0000	1.1701	0.1772	0.0000	0.1772			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347
Total	**2.7625**	**26.7594**	**15.5573**	**0.0241**	**1.1701**	**1.6477**	**2.8178**	**0.1772**	**1.5404**	**1.7175**	**0.0000**	**2,421.4229**	**2,421.4229**	**0.6125**		**2,436.7347**

3.2 Demolition - 2017

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	0.0610	1.8771	0.3834	4.4200e-003	0.0944	9.9100e-003	0.1043	0.0259	9.4900e-003	0.0354		476.7340	476.7340	0.0333		477.5667
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
Worker	0.0813	0.0624	0.8003	1.6900e-003	0.1453	1.3500e-003	0.1467	0.0385	1.2500e-003	0.0398		167.5593	167.5593	6.9600e-003		167.7332
Total	**0.1423**	**1.9394**	**1.1836**	**6.1100e-003**	**0.2397**	**0.0113**	**0.2510**	**0.0644**	**0.0107**	**0.0751**		**644.2933**	**644.2933**	**0.0403**		**645.2999**

3.3 Site Preparation - 2017

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	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
Off-Road	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
Total	**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**

3.3 Site Preparation - 2017

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	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	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
Total	**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**

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	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
Off-Road	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
Total	**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**

3.3 Site Preparation - 2017

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	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	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
Total	**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**

3.4 Grading - 2017

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					0.3182	0.0000	0.3182	0.0344	0.0000	0.0344			0.0000			0.0000
Off-Road	0.6789	8.2666	3.5642	7.7200e-003		0.3830	0.3830		0.3524	0.3524		789.4232	789.4232	0.2419		795.4701
Total	**0.6789**	**8.2666**	**3.5642**	**7.7200e-003**	**0.3182**	**0.3830**	**0.7012**	**0.0344**	**0.3524**	**0.3867**		**789.4232**	**789.4232**	**0.2419**		**795.4701**

3.4 Grading - 2017

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
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
Worker	0.0500	0.0384	0.4925	1.0400e-003	0.0894	8.3000e-004	0.0903	0.0237	7.7000e-004	0.0245		103.1134	103.1134	4.2800e-003		103.2204
Total	**0.0500**	**0.0384**	**0.4925**	**1.0400e-003**	**0.0894**	**8.3000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**103.1134**	**103.1134**	**4.2800e-003**		**103.2204**

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					0.3182	0.0000	0.3182	0.0344	0.0000	0.0344			0.0000			0.0000
Off-Road	0.6789	8.2666	3.5642	7.7200e-003		0.3830	0.3830		0.3524	0.3524	0.0000	789.4232	789.4232	0.2419		795.4701
Total	**0.6789**	**8.2666**	**3.5642**	**7.7200e-003**	**0.3182**	**0.3830**	**0.7012**	**0.0344**	**0.3524**	**0.3867**	**0.0000**	**789.4232**	**789.4232**	**0.2419**		**795.4701**

3.4 Grading - 2017

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
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
Worker	0.0500	0.0384	0.4925	1.0400e-003	0.0894	8.3000e-004	0.0903	0.0237	7.7000e-004	0.0245		103.1134	103.1134	4.2800e-003		103.2204
Total	**0.0500**	**0.0384**	**0.4925**	**1.0400e-003**	**0.0894**	**8.3000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**103.1134**	**103.1134**	**4.2800e-003**		**103.2204**

3.5 Building Construction - 2017

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	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875		2,043.8641	2,043.8641	0.4298		2,054.6085
Total	**2.9653**	**19.2365**	**14.3568**	**0.0220**		**1.2313**	**1.2313**		**1.1875**	**1.1875**		**2,043.8641**	**2,043.8641**	**0.4298**		**2,054.6085**

3.5 Building Construction - 2017

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
Vendor	0.0731	1.8254	0.5194	3.7200e-003	0.0896	0.0153	0.1049	0.0258	0.0146	0.0404		395.6301	395.6301	0.0274		396.3140
Worker	0.4690	0.3597	4.6171	9.7300e-003	0.8383	7.8000e-003	0.8461	0.2223	7.2000e-003	0.2295		966.6882	966.6882	0.0401		967.6915
Total	**0.5421**	**2.1851**	**5.1364**	**0.0135**	**0.9279**	**0.0231**	**0.9510**	**0.2481**	**0.0218**	**0.2700**		**1,362.3183**	**1,362.3183**	**0.0675**		**1,364.0055**

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	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875	0.0000	2,043.8641	2,043.8641	0.4298		2,054.6085
Total	**2.9653**	**19.2365**	**14.3568**	**0.0220**		**1.2313**	**1.2313**		**1.1875**	**1.1875**	**0.0000**	**2,043.8641**	**2,043.8641**	**0.4298**		**2,054.6085**

3.5 Building Construction - 2017

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
Vendor	0.0731	1.8254	0.5194	3.7200e-003	0.0896	0.0153	0.1049	0.0258	0.0146	0.0404		395.6301	395.6301	0.0274		396.3140
Worker	0.4690	0.3597	4.6171	9.7300e-003	0.8383	7.8000e-003	0.8461	0.2223	7.2000e-003	0.2295		966.6882	966.6882	0.0401		967.6915
Total	**0.5421**	**2.1851**	**5.1364**	**0.0135**	**0.9279**	**0.0231**	**0.9510**	**0.2481**	**0.0218**	**0.2700**		**1,362.3183**	**1,362.3183**	**0.0675**		**1,364.0055**

3.5 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**		**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Building Construction - 2018

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
Vendor	0.0644	1.7158	0.4691	3.7000e-003	0.0896	0.0121	0.1017	0.0258	0.0116	0.0374		394.3512	394.3512	0.0260		395.0004
Worker	0.4144	0.3127	4.0506	9.4500e-003	0.8383	7.4700e-003	0.8458	0.2223	6.8900e-003	0.2292		940.2674	940.2674	0.0353		941.1490
Total	**0.4788**	**2.0285**	**4.5197**	**0.0132**	**0.9279**	**0.0196**	**0.9475**	**0.2481**	**0.0185**	**0.2666**		**1,334.6186**	**1,334.6186**	**0.0612**		**1,336.1494**

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**	**0.0000**	**2,030.8389**	**2,030.8389**	**0.4088**		**2,041.0596**

3.5 Building Construction - 2018

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
Vendor	0.0644	1.7158	0.4691	3.7000e-003	0.0896	0.0121	0.1017	0.0258	0.0116	0.0374		394.3512	394.3512	0.0260		395.0004
Worker	0.4144	0.3127	4.0506	9.4500e-003	0.8383	7.4700e-003	0.8458	0.2223	6.8900e-003	0.2292		940.2674	940.2674	0.0353		941.1490
Total	**0.4788**	**2.0285**	**4.5197**	**0.0132**	**0.9279**	**0.0196**	**0.9475**	**0.2481**	**0.0185**	**0.2666**		**1,334.6186**	**1,334.6186**	**0.0612**		**1,336.1494**

3.6 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0182**	**10.4525**	**8.9926**	**0.0135**		**0.6097**	**0.6097**		**0.5618**	**0.5618**		**1,346.4360**	**1,346.4360**	**0.4113**		**1,356.7186**

3.6 Paving - 2018

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
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
Worker	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	**0.0718**	**0.0542**	**0.7021**	**1.6400e-003**	**0.1453**	**1.3000e-003**	**0.1466**	**0.0385**	**1.1900e-003**	**0.0397**		**162.9797**	**162.9797**	**6.1100e-003**		**163.1325**

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0182**	**10.4525**	**8.9926**	**0.0135**		**0.6097**	**0.6097**		**0.5618**	**0.5618**	**0.0000**	**1,346.4360**	**1,346.4360**	**0.4113**		**1,356.7186**

3.6 Paving - 2018

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
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
Worker	0.0718	0.0542	0.7021	1.6400e-003	0.1453	1.3000e-003	0.1466	0.0385	1.1900e-003	0.0397		162.9797	162.9797	6.1100e-003		163.1325
Total	**0.0718**	**0.0542**	**0.7021**	**1.6400e-003**	**0.1453**	**1.3000e-003**	**0.1466**	**0.0385**	**1.1900e-003**	**0.0397**		**162.9797**	**162.9797**	**6.1100e-003**		**163.1325**

3.7 Architectural Coating - 2018

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	58.7347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**59.0334**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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
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
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**		**188.0535**	**188.0535**	**7.0500e-003**		**188.2298**

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	58.7347					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**59.0334**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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
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
Worker	0.0829	0.0625	0.8101	1.8900e-003	0.1677	1.4900e-003	0.1692	0.0445	1.3800e-003	0.0458		188.0535	188.0535	7.0500e-003		188.2298
Total	**0.0829**	**0.0625**	**0.8101**	**1.8900e-003**	**0.1677**	**1.4900e-003**	**0.1692**	**0.0445**	**1.3800e-003**	**0.0458**		**188.0535**	**188.0535**	**7.0500e-003**		**188.2298**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	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	1.4344	6.5783	19.2085	0.0582	4.3699	0.0656	4.4354	1.1697	0.0616	1.2313		5,909.5522	5,909.5522	0.3397		5,918.0450
Unmitigated	1.4557	6.7176	19.7533	0.0601	4.5162	0.0676	4.5838	1.2088	0.0635	1.2724		6,096.9754	6,096.9754	0.3494		6,105.7107

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	591.85	568.71	521.54	1,976,822	1,912,777
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	53.18	50.45	24.52	92,652	89,650
Total	645.03	619.16	546.06	2,069,474	2,002,427

4.3 Trip Type Information

	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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	0.00	0.00	0.00	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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Strip Mall	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Apartments Mid Rise	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

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	0.0294	0.2513	0.1072	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.7774	320.7774	6.1500e-003	5.8800e-003	322.6837
NaturalGas Unmitigated	0.0294	0.2513	0.1072	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.7774	320.7774	6.1500e-003	5.8800e-003	322.6837

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	2721.18	0.0294	0.2508	0.1067	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.1392	320.1392	6.1400e-003	5.8700e-003	322.0417
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	5.42466	6.0000e-005	5.3000e-004	4.5000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.6382	0.6382	1.0000e-005	1.0000e-005	0.6420
Total		**0.0294**	**0.2513**	**0.1072**	**1.6000e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**320.7774**	**320.7774**	**6.1500e-003**	**5.8800e-003**	**322.6837**

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	2.72118	0.0294	0.2508	0.1067	1.6000e-003		0.0203	0.0203		0.0203	0.0203		320.1392	320.1392	6.1400e-003	5.8700e-003	322.0417
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	0.00542466	6.0000e-005	5.3000e-004	4.5000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.6382	0.6382	1.0000e-005	1.0000e-005	0.6420
Total		**0.0294**	**0.2513**	**0.1072**	**1.6000e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**320.7774**	**320.7774**	**6.1500e-003**	**5.8800e-003**	**322.6837**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	3.2309	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404	0.0000	13.2269	13.2269	0.0130	0.0000	13.5517
Unmitigated	3.2309	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404	0.0000	13.2269	13.2269	0.0130	0.0000	13.5517

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	0.2414					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.2261	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404		13.2269	13.2269	0.0130		13.5517
Total	**3.2309**	**0.0855**	**7.3817**	**3.9000e-004**		**0.0404**	**0.0404**		**0.0404**	**0.0404**	**0.0000**	**13.2269**	**13.2269**	**0.0130**	**0.0000**	**13.5517**

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	0.2414					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7634					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.2261	0.0855	7.3817	3.9000e-004		0.0404	0.0404		0.0404	0.0404		13.2269	13.2269	0.0130		13.5517
Total	**3.2309**	**0.0855**	**7.3817**	**3.9000e-004**		**0.0404**	**0.0404**		**0.0404**	**0.0404**	**0.0000**	**13.2269**	**13.2269**	**0.0130**	**0.0000**	**13.5517**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3802 N Pasadena Ave Mixed-Use

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	24.80	1000sqft	0.00	24,800.00	0
Strip Mall	1.20	1000sqft	0.03	1,200.00	0
Apartments Mid Rise	89.00	Dwelling Unit	1.06	137,920.00	255

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use - 1.06 ac lot, retail and parking within same lot area
137,920 res sq ft, 1,200 ret sq ft,

Construction Phase - No site prep phase, grading 5 days, coating 15 days

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - grader and backhoe/loader

Off-road Equipment -

Off-road Equipment - No site prep phase

Demolition -

Grading - No site prep phase

Vehicle Trips - No additional trips from onsite parking

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Trips and VMT - No site prep phase

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	PhaseEndDate	2/9/2018	2/16/2018
tblConstructionPhase	PhaseEndDate	4/3/2017	3/30/2017
tblConstructionPhase	PhaseStartDate	4/8/2017	4/10/2017

tblConstructionPhase	PhaseStartDate	4/4/2017	4/3/2017
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	75.65	0.00
tblFireplaces	NumberNoFireplace	8.90	0.00
tblFireplaces	NumberWood	4.45	0.00
tblGrading	AcresOfGrading	1.88	1.50
tblLandUse	BuildingSpaceSquareFeet	89,000.00	137,920.00
tblLandUse	LandUseSquareFeet	89,000.00	137,920.00
tblLandUse	LotAcreage	0.57	0.00
tblLandUse	LotAcreage	2.34	1.06
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblWoodstoves	NumberCatalytic	4.45	0.00
tblWoodstoves	NumberNoncatalytic	4.45	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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					
2017	0.3644	2.3523	2.0087	3.6500e-003	0.1015	0.1367	0.2383	0.0257	0.1313	0.1570	0.0000	319.3652	319.3652	0.0493	0.0000	320.5971
2018	0.4642	0.1658	0.1589	2.9000e-004	6.5000e-003	9.5800e-003	0.0161	1.7400e-003	9.1600e-003	0.0109	0.0000	25.0183	25.0183	4.2500e-003	0.0000	25.1245
Maximum	**0.4642**	**2.3523**	**2.0087**	**3.6500e-003**	**0.1015**	**0.1367**	**0.2383**	**0.0257**	**0.1313**	**0.1570**	**0.0000**	**319.3652**	**319.3652**	**0.0493**	**0.0000**	**320.5971**

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					
2017	0.3644	2.3523	2.0087	3.6500e-003	0.1015	0.1367	0.2383	0.0257	0.1313	0.1570	0.0000	319.3649	319.3649	0.0493	0.0000	320.5969
2018	0.4642	0.1658	0.1589	2.9000e-004	6.5000e-003	9.5800e-003	0.0161	1.7400e-003	9.1600e-003	0.0109	0.0000	25.0182	25.0182	4.2500e-003	0.0000	25.1245
Maximum	**0.4642**	**2.3523**	**2.0087**	**3.6500e-003**	**0.1015**	**0.1367**	**0.2383**	**0.0257**	**0.1313**	**0.1570**	**0.0000**	**319.3649**	**319.3649**	**0.0493**	**0.0000**	**320.5969**

	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	N20	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	**3-3-2017**	**6-2-2017**	0.8134	0.8134
2	**6-3-2017**	**9-2-2017**	0.8191	0.8191
3	**9-3-2017**	**12-2-2017**	0.8124	0.8124
4	**12-3-2017**	**3-2-2018**	0.8732	0.8732
		Highest	0.8732	0.8732

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	0.5766	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367
Energy	5.3700e-003	0.0459	0.0196	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	364.2827	364.2827	8.3700e-003	2.4900e-003	365.2352
Mobile	0.2454	1.2491	3.3818	0.0103	0.7855	0.0120	0.7975	0.2106	0.0113	0.2219	0.0000	946.0129	946.0129	0.0557	0.0000	947.4060
Waste						0.0000	0.0000		0.0000	0.0000	8.5662	0.0000	8.5662	0.5063	0.0000	21.2224
Water						0.0000	0.0000		0.0000	0.0000	1.8679	65.6561	67.5239	0.1934	4.8500e-003	73.8044
Total	**0.8274**	**1.3056**	**4.3241**	**0.0106**	**0.7855**	**0.0208**	**0.8063**	**0.2106**	**0.0201**	**0.2307**	**10.4341**	**1,377.4516**	**1,387.8856**	**0.7652**	**7.3400e-003**	**1,409.2048**

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	0.5766	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367
Energy	5.3700e-003	0.0459	0.0196	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	364.2827	364.2827	8.3700e-003	2.4900e-003	365.2352
Mobile	0.2417	1.2224	3.2917	9.9500e-003	0.7601	0.0116	0.7717	0.2038	0.0109	0.2147	0.0000	916.9245	916.9245	0.0542	0.0000	918.2795
Waste						0.0000	0.0000		0.0000	0.0000	8.5662	0.0000	8.5662	0.5063	0.0000	21.2224
Water						0.0000	0.0000		0.0000	0.0000	1.8679	65.6561	67.5239	0.1934	4.8500e-003	73.8044
Total	**0.8237**	**1.2789**	**4.2340**	**0.0103**	**0.7601**	**0.0204**	**0.7805**	**0.2038**	**0.0197**	**0.2235**	**10.4341**	**1,348.3631**	**1,358.7972**	**0.7637**	**7.3400e-003**	**1,380.0782**

	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	N20	CO2e
Percent Reduction	**0.45**	**2.05**	**2.08**	**3.02**	**3.24**	**1.73**	**3.20**	**3.24**	**1.70**	**3.10**	**0.00**	**2.11**	**2.10**	**0.20**	**0.00**	**2.07**

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	3/3/2017	3/30/2017	5	20	
2	Site Preparation	Site Preparation	3/31/2017	3/30/2017	5	0	
3	Grading	Grading	4/3/2017	4/7/2017	5	5	
4	Building Construction	Building Construction	4/10/2017	1/12/2018	5	200	
5	Paving	Paving	1/13/2018	1/26/2018	5	10	
6	Architectural Coating	Architectural Coating	1/27/2018	2/16/2018	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 279,288; Residential Outdoor: 93,096; Non-Residential Indoor: 1,800; Non-Residential Outdoor: 600; Striped Parking Area: 1,488 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

3802 N Pasadena Ave Mixed-Use - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
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
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
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
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	108.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	75.00	14.00	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	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

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					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0276	0.2676	0.1556	2.4000e-004		0.0165	0.0165		0.0154	0.0154	0.0000	21.9668	21.9668	5.5600e-003	0.0000	22.1057
Total	**0.0276**	**0.2676**	**0.1556**	**2.4000e-004**	**0.0117**	**0.0165**	**0.0282**	**1.7700e-003**	**0.0154**	**0.0172**	**0.0000**	**21.9668**	**21.9668**	**5.5600e-003**	**0.0000**	**22.1057**

3.2 Demolition - 2017

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	6.2000e-004	0.0194	3.9500e-003	4.0000e-005	9.3000e-004	1.0000e-004	1.0300e-003	2.5000e-004	1.0000e-004	3.5000e-004	0.0000	4.2954	4.2954	3.1000e-004	0.0000	4.3031
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	8.2000e-004	7.1000e-004	7.5900e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.4554	1.4554	6.0000e-005	0.0000	1.4569
Total	**1.4400e-003**	**0.0201**	**0.0115**	**6.0000e-005**	**2.3500e-003**	**1.1000e-004**	**2.4700e-003**	**6.3000e-004**	**1.1000e-004**	**7.4000e-004**	**0.0000**	**5.7508**	**5.7508**	**3.7000e-004**	**0.0000**	**5.7600**

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					0.0117	0.0000	0.0117	1.7700e-003	0.0000	1.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0276	0.2676	0.1556	2.4000e-004		0.0165	0.0165		0.0154	0.0154	0.0000	21.9668	21.9668	5.5600e-003	0.0000	22.1057
Total	**0.0276**	**0.2676**	**0.1556**	**2.4000e-004**	**0.0117**	**0.0165**	**0.0282**	**1.7700e-003**	**0.0154**	**0.0172**	**0.0000**	**21.9668**	**21.9668**	**5.5600e-003**	**0.0000**	**22.1057**

3.2 Demolition - 2017

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	6.2000e-004	0.0194	3.9500e-003	4.0000e-005	9.3000e-004	1.0000e-004	1.0300e-003	2.5000e-004	1.0000e-004	3.5000e-004	0.0000	4.2954	4.2954	3.1000e-004	0.0000	4.3031
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	8.2000e-004	7.1000e-004	7.5900e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.4554	1.4554	6.0000e-005	0.0000	1.4569
Total	**1.4400e-003**	**0.0201**	**0.0115**	**6.0000e-005**	**2.3500e-003**	**1.1000e-004**	**2.4700e-003**	**6.3000e-004**	**1.1000e-004**	**7.4000e-004**	**0.0000**	**5.7508**	**5.7508**	**3.7000e-004**	**0.0000**	**5.7600**

3.3 Site Preparation - 2017

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	0.0000	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
Off-Road	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
Total	**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**

3.3 Site Preparation - 2017

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	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
Total	**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**

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	0.0000	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
Off-Road	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
Total	**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**

3.3 Site Preparation - 2017

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	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
Total	**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**

3.4 Grading - 2017

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					8.0000e-004	0.0000	8.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0207	8.9100e-003	2.0000e-005		9.6000e-004	9.6000e-004		8.8000e-004	8.8000e-004	0.0000	1.7904	1.7904	5.5000e-004	0.0000	1.8041
Total	**1.7000e-003**	**0.0207**	**8.9100e-003**	**2.0000e-005**	**8.0000e-004**	**9.6000e-004**	**1.7600e-003**	**9.0000e-005**	**8.8000e-004**	**9.7000e-004**	**0.0000**	**1.7904**	**1.7904**	**5.5000e-004**	**0.0000**	**1.8041**

3.4 Grading - 2017

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	1.3000e-004	1.1000e-004	1.1700e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2239	0.2239	1.0000e-005	0.0000	0.2241
Total	**1.3000e-004**	**1.1000e-004**	**1.1700e-003**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2239**	**0.2239**	**1.0000e-005**	**0.0000**	**0.2241**

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					8.0000e-004	0.0000	8.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0207	8.9100e-003	2.0000e-005		9.6000e-004	9.6000e-004		8.8000e-004	8.8000e-004	0.0000	1.7904	1.7904	5.5000e-004	0.0000	1.8041
Total	**1.7000e-003**	**0.0207**	**8.9100e-003**	**2.0000e-005**	**8.0000e-004**	**9.6000e-004**	**1.7600e-003**	**9.0000e-005**	**8.8000e-004**	**9.7000e-004**	**0.0000**	**1.7904**	**1.7904**	**5.5000e-004**	**0.0000**	**1.8041**

3.4 Grading - 2017

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	1.3000e-004	1.1000e-004	1.1700e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2239	0.2239	1.0000e-005	0.0000	0.2241
Total	**1.3000e-004**	**1.1000e-004**	**1.1700e-003**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2239**	**0.2239**	**1.0000e-005**	**0.0000**	**0.2241**

3.5 Building Construction - 2017

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	0.2817	1.8275	1.3639	2.0900e-003		0.1170	0.1170		0.1128	0.1128	0.0000	176.1454	176.1454	0.0370	0.0000	177.0714
Total	**0.2817**	**1.8275**	**1.3639**	**2.0900e-003**		**0.1170**	**0.1170**		**0.1128**	**0.1128**	**0.0000**	**176.1454**	**176.1454**	**0.0370**	**0.0000**	**177.0714**

3.5 Building Construction - 2017

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	7.0600e-003	0.1774	0.0518	3.5000e-004	8.3800e-003	1.4600e-003	9.8400e-003	2.4200e-003	1.4000e-003	3.8200e-003	0.0000	33.7237	33.7237	2.4300e-003	0.0000	33.7844
Worker	0.0448	0.0389	0.4158	8.8000e-004	0.0781	7.4000e-004	0.0788	0.0207	6.8000e-004	0.0214	0.0000	79.7642	79.7642	3.3300e-003	0.0000	79.8474
Total	**0.0518**	**0.2163**	**0.4676**	**1.2300e-003**	**0.0865**	**2.2000e-003**	**0.0887**	**0.0232**	**2.0800e-003**	**0.0252**	**0.0000**	**113.4879**	**113.4879**	**5.7600e-003**	**0.0000**	**113.6318**

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	0.2817	1.8275	1.3639	2.0900e-003		0.1170	0.1170		0.1128	0.1128	0.0000	176.1452	176.1452	0.0370	0.0000	177.0712
Total	**0.2817**	**1.8275**	**1.3639**	**2.0900e-003**		**0.1170**	**0.1170**		**0.1128**	**0.1128**	**0.0000**	**176.1452**	**176.1452**	**0.0370**	**0.0000**	**177.0712**

3.5 Building Construction - 2017

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	7.0600e-003	0.1774	0.0518	3.5000e-004	8.3800e-003	1.4600e-003	9.8400e-003	2.4200e-003	1.4000e-003	3.8200e-003	0.0000	33.7237	33.7237	2.4300e-003	0.0000	33.7844
Worker	0.0448	0.0389	0.4158	8.8000e-004	0.0781	7.4000e-004	0.0788	0.0207	6.8000e-004	0.0214	0.0000	79.7642	79.7642	3.3300e-003	0.0000	79.8474
Total	**0.0518**	**0.2163**	**0.4676**	**1.2300e-003**	**0.0865**	**2.2000e-003**	**0.0887**	**0.0232**	**2.0800e-003**	**0.0252**	**0.0000**	**113.4879**	**113.4879**	**5.7600e-003**	**0.0000**	**113.6318**

3.5 Building Construction - 2018

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	0.0130	0.0871	0.0694	1.1000e-004		5.2900e-003	5.2900e-003		5.1100e-003	5.1100e-003	0.0000	9.2117	9.2117	1.8500e-003	0.0000	9.2581
Total	**0.0130**	**0.0871**	**0.0694**	**1.1000e-004**		**5.2900e-003**	**5.2900e-003**		**5.1100e-003**	**5.1100e-003**	**0.0000**	**9.2117**	**9.2117**	**1.8500e-003**	**0.0000**	**9.2581**

3.5 Building Construction - 2018

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	3.3000e-004	8.7700e-003	2.4600e-003	2.0000e-005	4.4000e-004	6.0000e-005	5.0000e-004	1.3000e-004	6.0000e-005	1.9000e-004	0.0000	1.7687	1.7687	1.2000e-004	0.0000	1.7717
Worker	2.0800e-003	1.7800e-003	0.0191	5.0000e-005	4.1100e-003	4.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1300e-003	0.0000	4.0830	4.0830	1.5000e-004	0.0000	4.0868
Total	**2.4100e-003**	**0.0106**	**0.0216**	**7.0000e-005**	**4.5500e-003**	**1.0000e-004**	**4.6500e-003**	**1.2200e-003**	**9.0000e-005**	**1.3200e-003**	**0.0000**	**5.8517**	**5.8517**	**2.7000e-004**	**0.0000**	**5.8585**

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	0.0130	0.0871	0.0694	1.1000e-004		5.2900e-003	5.2900e-003		5.1100e-003	5.1100e-003	0.0000	9.2117	9.2117	1.8500e-003	0.0000	9.2581
Total	**0.0130**	**0.0871**	**0.0694**	**1.1000e-004**		**5.2900e-003**	**5.2900e-003**		**5.1100e-003**	**5.1100e-003**	**0.0000**	**9.2117**	**9.2117**	**1.8500e-003**	**0.0000**	**9.2581**

3.5 Building Construction - 2018

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	3.3000e-004	8.7700e-003	2.4600e-003	2.0000e-005	4.4000e-004	6.0000e-005	5.0000e-004	1.3000e-004	6.0000e-005	1.9000e-004	0.0000	1.7687	1.7687	1.2000e-004	0.0000	1.7717
Worker	2.0800e-003	1.7800e-003	0.0191	5.0000e-005	4.1100e-003	4.0000e-005	4.1500e-003	1.0900e-003	3.0000e-005	1.1300e-003	0.0000	4.0830	4.0830	1.5000e-004	0.0000	4.0868
Total	**2.4100e-003**	**0.0106**	**0.0216**	**7.0000e-005**	**4.5500e-003**	**1.0000e-004**	**4.6500e-003**	**1.2200e-003**	**9.0000e-005**	**1.3200e-003**	**0.0000**	**5.8517**	**5.8517**	**2.7000e-004**	**0.0000**	**5.8585**

3.6 Paving - 2018

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	5.0900e-003	0.0523	0.0450	7.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	6.1073	6.1073	1.8700e-003	0.0000	6.1540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0900e-003**	**0.0523**	**0.0450**	**7.0000e-005**		**3.0500e-003**	**3.0500e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**6.1073**	**6.1073**	**1.8700e-003**	**0.0000**	**6.1540**

3.6 Paving - 2018

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	3.6000e-004	3.1000e-004	3.3100e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7077	0.7077	3.0000e-005	0.0000	0.7084
Total	**3.6000e-004**	**3.1000e-004**	**3.3100e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.7077**	**0.7077**	**3.0000e-005**	**0.0000**	**0.7084**

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	5.0900e-003	0.0523	0.0450	7.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	6.1073	6.1073	1.8700e-003	0.0000	6.1540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0900e-003**	**0.0523**	**0.0450**	**7.0000e-005**		**3.0500e-003**	**3.0500e-003**		**2.8100e-003**	**2.8100e-003**	**0.0000**	**6.1073**	**6.1073**	**1.8700e-003**	**0.0000**	**6.1540**

3.6 Paving - 2018

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	3.6000e-004	3.1000e-004	3.3100e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7077	0.7077	3.0000e-005	0.0000	0.7084
Total	**3.6000e-004**	**3.1000e-004**	**3.3100e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.7077**	**0.7077**	**3.0000e-005**	**0.0000**	**0.7084**

3.7 Architectural Coating - 2018

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	0.4405					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2400e-003	0.0150	0.0139	2.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	1.9149	1.9149	1.8000e-004	0.0000	1.9195
Total	**0.4428**	**0.0150**	**0.0139**	**2.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**	**0.0000**	**1.9149**	**1.9149**	**1.8000e-004**	**0.0000**	**1.9195**

3.7 Architectural Coating - 2018

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	5.3000e-004	5.7400e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.2249	1.2249	5.0000e-005	0.0000	1.2261
Total	**6.2000e-004**	**5.3000e-004**	**5.7400e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.2249**	**1.2249**	**5.0000e-005**	**0.0000**	**1.2261**

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	0.4405					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2400e-003	0.0150	0.0139	2.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	1.9149	1.9149	1.8000e-004	0.0000	1.9195
Total	**0.4428**	**0.0150**	**0.0139**	**2.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**	**0.0000**	**1.9149**	**1.9149**	**1.8000e-004**	**0.0000**	**1.9195**

3.7 Architectural Coating - 2018

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	5.3000e-004	5.7400e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.2249	1.2249	5.0000e-005	0.0000	1.2261
Total	**6.2000e-004**	**5.3000e-004**	**5.7400e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.2249**	**1.2249**	**5.0000e-005**	**0.0000**	**1.2261**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	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	0.2417	1.2224	3.2917	9.9500e-003	0.7601	0.0116	0.7717	0.2038	0.0109	0.2147	0.0000	916.9245	916.9245	0.0542	0.0000	918.2795
Unmitigated	0.2454	1.2491	3.3818	0.0103	0.7855	0.0120	0.7975	0.2106	0.0113	0.2219	0.0000	946.0129	946.0129	0.0557	0.0000	947.4060

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	591.85	568.71	521.54	1,976,822	1,912,777
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	53.18	50.45	24.52	92,652	89,650
Total	645.03	619.16	546.06	2,069,474	2,002,427

4.3 Trip Type Information

	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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	0.00	0.00	0.00	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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Strip Mall	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Apartments Mid Rise	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

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	311.1744	311.1744	7.3500e-003	1.5200e-003	311.8113
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	311.1744	311.1744	7.3500e-003	1.5200e-003	311.8113
NaturalGas Mitigated	5.3700e-003	0.0459	0.0196	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	53.1083	53.1083	1.0200e-003	9.7000e-004	53.4239
NaturalGas Unmitigated	5.3700e-003	0.0459	0.0196	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003	0.0000	53.1083	53.1083	1.0200e-003	9.7000e-004	53.4239

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	993232	5.3600e-003	0.0458	0.0195	2.9000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	53.0026	53.0026	1.0200e-003	9.7000e-004	53.3176
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	1980	1.0000e-005	1.0000e-004	8.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1057	0.1057	0.0000	0.0000	0.1063
Total		**5.3700e-003**	**0.0459**	**0.0196**	**2.9000e-004**		**3.7100e-003**	**3.7100e-003**		**3.7100e-003**	**3.7100e-003**	**0.0000**	**53.1083**	**53.1083**	**1.0200e-003**	**9.7000e-004**	**53.4239**

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	993232	5.3600e-003	0.0458	0.0195	2.9000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	53.0026	53.0026	1.0200e-003	9.7000e-004	53.3176
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	1980	1.0000e-005	1.0000e-004	8.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1057	0.1057	0.0000	0.0000	0.1063
Total		**5.3700e-003**	**0.0459**	**0.0196**	**2.9000e-004**		**3.7100e-003**	**3.7100e-003**		**3.7100e-003**	**3.7100e-003**	**0.0000**	**53.1083**	**53.1083**	**1.0200e-003**	**9.7000e-004**	**53.4239**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	374916	208.8138	4.9300e-003	1.0200e-003	209.2412
Enclosed Parking with Elevator	167152	93.0972	2.2000e-003	4.5000e-004	93.2878
Strip Mall	16632	9.2634	2.2000e-004	5.0000e-005	9.2823
Total		**311.1744**	**7.3500e-003**	**1.5200e-003**	**311.8113**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	374916	208.8138	4.9300e-003	1.0200e-003	209.2412
Enclosed Parking with Elevator	167152	93.0972	2.2000e-003	4.5000e-004	93.2878
Strip Mall	16632	9.2634	2.2000e-004	5.0000e-005	9.2823
Total		**311.1744**	**7.3500e-003**	**1.5200e-003**	**311.8113**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	0.5766	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367
Unmitigated	0.5766	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367

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	0.0441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0283	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367
Total	**0.5766**	**0.0107**	**0.9227**	**5.0000e-005**		**5.0600e-003**	**5.0600e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**1.4999**	**1.4999**	**1.4700e-003**	**0.0000**	**1.5367**

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	0.0441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5043					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0283	0.0107	0.9227	5.0000e-005		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	1.4999	1.4999	1.4700e-003	0.0000	1.5367
Total	**0.5766**	**0.0107**	**0.9227**	**5.0000e-005**		**5.0600e-003**	**5.0600e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**1.4999**	**1.4999**	**1.4700e-003**	**0.0000**	**1.5367**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.5239	0.1934	4.8500e-003	73.8044
Unmitigated	67.5239	0.1934	4.8500e-003	73.8044

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.79871 / 3.65571	66.5140	0.1905	4.7800e-003	72.6997
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.088887 / 0.0544791	1.0099	2.9200e-003	7.0000e-005	1.1047
Total		**67.5239**	**0.1934**	**4.8500e-003**	**73.8044**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.79871 / 3.65571	66.5140	0.1905	4.7800e-003	72.6997
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.088887 / 0.0544791	1.0099	2.9200e-003	7.0000e-005	1.1047
Total		**67.5239**	**0.1934**	**4.8500e-003**	**73.8044**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.5662	0.5063	0.0000	21.2224
Unmitigated	8.5662	0.5063	0.0000	21.2224

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	40.94	8.3105	0.4911	0.0000	20.5888
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.26	0.2558	0.0151	0.0000	0.6337
Total		**8.5662**	**0.5063**	**0.0000**	**21.2225**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	40.94	8.3105	0.4911	0.0000	20.5888
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.26	0.2558	0.0151	0.0000	0.6337
Total		**8.5662**	**0.5063**	**0.0000**	**21.2225**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Michelle Carter <michelle.carter@lacity.org>

VTT 74933 FIGUEROA AND PASADENA

Wes Pringle <wes.pringle@lacity.org> Mon, Aug 22, 2022 at 4:21 PM
To: Oliver Netburn <oliver.netburn@lacity.org>
Cc: Michelle Carter <michelle.carter@lacity.org>

Hi Oliver,

On December 5, 2018, the Department of Transportation (DOT) issued a traffic assessment report to the Department of City Planning for the proposed mixed-use project located at 3802 North Pasadena Avenue. The proposed project was subject to a transportation analysis, prepared by Transgroup, dated August 2018, in which the study included the detailed analysis of five intersections and determined that under the previous traffic impact criteria there would be no significant traffic impacts. However, subsequent to the releasing of the report, pursuant to the Senate Bill (SB 743) and the recent changes to the Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as the criteria by which to determine transportation impacts under CEQA. Therefore, in response to this action, Therefore, in response to this action, the applicant submitted a VMT analysis as addendum to the previous study for the proposed project on August 18, 2022 (updated from July 26, 2022).

The project proposes a mixed-use development consisting of 100 multi-family residential units, including 10 low-income units and 15,378 square-feet of retail space. Access to the project site would be provided via one driveway on Avenue 39. The project will provide 111 vehicle parking spaces and 226 bicycle parking spaces.

The analysis included discussion of the transportation impact thresholds:

T-1 Conflicting with plans, programs, ordinances, or policies
T-2.1 Causing substantial vehicle miles traveled
T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would <u>not</u> have a significant transportation impact under the above thresholds for T-1 and T-3. The Project's impacts per Thresholds T-2.1 is determined by using the VMT calculator and is discussed below.

The DOT VMT Calculator tool measures project impact in terms of Household VMT per Capita and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the East Los Angeles APC, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 7.2
- Work VMT per Employee: 12.7

As cited in the transportation assessment report, the proposed project is projected to have a Household VMT per capita of 7.3 and no Work VMT per employee. Bicycle Parking per LAMC was included as a project design feature in the calculation of the project's VMT. Therefore, it is concluded that implementation of the Project would have a significant Household Impact and no Work VMT impact.

To mitigate the significant VMT impact the project will incorporate unbundled parking as a TDM strategy. Parking will be provided at a cost of $150 a month for a portion of the project.

With the mitigation measure applied, the project's expected Household VMT will be reduced to 6. This will fully mitigate the project's significant impact.

DOT concurs with the findings of the addendum to the original study. All conditions of the original December 5, 2018 letter shall remain in effect.

Wes

On Thu, Jul 28, 2022 at 3:33 PM Oliver Netburn <oliver.netburn@lacity.org> wrote:
[Quoted text hidden]
[Quoted text hidden]

MEMORANDUM

Date:	August 18, 2022	**TG:**	1.17078.00
To:	Wes Pringle – LADOT Development Review		
From:	Stefanie Herzstein, PE, PTOE – Transpo Group		
cc:	Michael Naim – Naim Associates Harvey Goodman and Sheri Gould – Harvey Goodman Civil Engineer		
Subject:	Belvedere (3832-3836 N Figueroa Street) TIS Addendum (VTT 74933)		

This memorandum provides an addendum to the Transportation Impact Study (TIS) for the proposed Belvedere Development (Project) located at 3832-3836 N Figueroa Street in Los Angeles, California. Transpo completed the NELA Plaza Development Project (currently known as the Belvedere Development) TIS in July 2018. LADOT adopted the Transportation Assessment Guidelines (TAG) in July 2020, which requires additional analysis to comply with CEQA. The Project has not been entitled prior to July 2020; therefore, this addendum provides the required CEQA analysis in accordance with the July 2020 TAG. The project description, CEQA screening, and vehicle miles traveled (VMT) analysis and mitigation are discussed.

Project Description

The Project site is located on the southeast side of the intersection of Figueroa Street and Pasadena Avenue. The addresses are 3832-3836 N Figueroa Street, 3800-3830 N Pasadena Avenue, and 110 E Avenue 39. The Project encompasses parcel numbers 5457-005-001, 5457-005-015, 5457-005-016, and 5457-005-017. Figure 1 shows the site plan.

Figure 1 Site Plan

The Project proposes a mixed-use building with 100 multi-family mid-rise residential units including 10 low-income units and 15,378 square-feet of commercial. The existing 4 low-rise residential units and recycling center would be removed with the Project. Vehicle access to the site would be provided via one driveway along Avenue 39. Non-motorized (pedestrian and bicycle) access would be provided via entrances along Pasadena Avenue and Avenue 39.

The Project would provide 111 parking spaces, which is more than the 75 parking spaces required by the City's municipal code. Residential parking would be unbundled with monthly charges for a portion of the spaces. The Project would also provide 226 bicycle parking spaces, which is more than double the 95 bicycle parking spaces required by code.

CEQA Screening

The TAG outlines screening criteria to determine if further CEQA analysis is needed based thresholds T-1, T-2.1, T-2.2, and T-3. Threshold T-2.2 applies to transportation improvement projects and is not applicable to the proposed development. Table 1 provides a summary of the CEQA screening for the Project. If the answer is "yes" to the screening criteria then further analysis is required. Attachment A provides T-2.1 project screening calculations using the City VMT Calculator tool.

Table 1. CEQA Screening Analysis Summary

Threshold[1]		Criteria[1]	Answer	Additional Detail/Support
T-1	Conflicting with Plans, Programs, Ordinances or Polices	Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan?	No	The Project conforms to the General Plan and not action is required.
		Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?	No	The Project does not conflict with transportation plans, policies or programs.
		Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?	No	The Project is not proposing voluntary modifications to the public right-of-way.
T-2.1	Causing substantial Vehicle Miles Traveled	T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips?[2]	Yes	See Attachment A showing the project generates 950 net new daily trips.
		T-2.1-2: Would the project generate a net increase in daily VMT?[2]	Yes	See Attachment A showing the project generates a net increase of 7,426 daily VMT.
		If the project includes retail uses, does the portion of the project that contain retail uses exceed a net 50,000 square feet?	No	The proposed retail is 15,378 square-feet.
		Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?	No	The Project increases the number of residential units near rail.
T-3	Substantially increasing hazards due to a geometric design feature or incompatible use	Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?	No	The existing driveway along Pasadena Avenue, an Avenue II, is removed with the Project. Vehicle access is consolidated to/from Avenue 39, a local street.
		Is the project proposing to make any voluntary or required modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)	No	The Project is not proposing voluntary modifications to the public right-of-way.

1. Per *City of Los Angeles Transportation Assessment Guidelines* July 2020
2. Determined using the City of Los Angeles VMT Calculator Tool Version 1.3 (see Attachment A for output)

As shown in Table 1, the Project would require further VMT analysis based on review of criteria for threshold T-2.1. The following sections provide the VMT analysis.

VMT Impact Analysis

The City's VMT calculator version 1.3 was used to determine the Project VMT (see Attachment A). The mixed-use Project is considered to have a significant impact if the VMT per capita exceeds 15 percent below the average household VMT per capita for the Area Planning Commission (APC) area in which the project is located. The project is located in the East Los Angeles APC, which has a 7.2 threshold for 15 percent below the average household VMT per capita. The VMT calculator (see Attachment A) shows that without mitigation the Project would have a VMT per capita of 7.3 and would require mitigation.

The retail portion of the project is less than 50,000 square-feet; thus, it is considered local serving and would not have a VMT impact.

Cumulative Impacts

Cumulative impacts of the Project are evaluated by checking consistency with the SCAG RPT/SCS. Projects that are consistent with this plan for development location, density, and intensity, are part of the regional solution for meeting air pollution and GHG reduction goals. The Project is consistent with the SCAG RPT/SCS. Implementation of mitigation to reduce the VMT per capita impact would result in less than significant cumulative impacts.

Mitigation Measures

The City's TAG outlines potential transportation demand management (TDM) mitigation measures that could be implemented to reduce the Project VMT. The mitigation measures are also incorporated into the VMT calculator tool.

The Project proposal incorporates some TDM strategies:

- **Bike Parking Higher than Required.** The Project bicycle parking exceeds the city code requirement including 198 enclosed bike parking, 7 spaces for residential guest, 12 long-term retail bike parking and 9 short-term retail guest parking for a total of 226 bicycle parking spaces on-site.
- **Unbundled Parking.** Residential parking associated with the Project would be unbundled with a monthly fee for a **portion** of the parking (i.e., not all residentials would pay for parking).

Additional TDM measures are needed to mitigate the Project VMT impact. The applicant is proposing to unbundle the residential parking and charge a monthly fee of at least $150 for **all** residential parking. Attachment A shows the Project VMT impact would be less than significant with the proposed TDM mitigation strategy.

Conclusion

There would be a significant VMT impact requiring mitigation with the Project. Residential parking would be unbundled with a minimum monthly charge of $150 to mitigate the Project impact. The proposed mitigation measure would reduce the overall Project VMT to less than significant.

Attachment A: VMT Analysis Tool Output

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

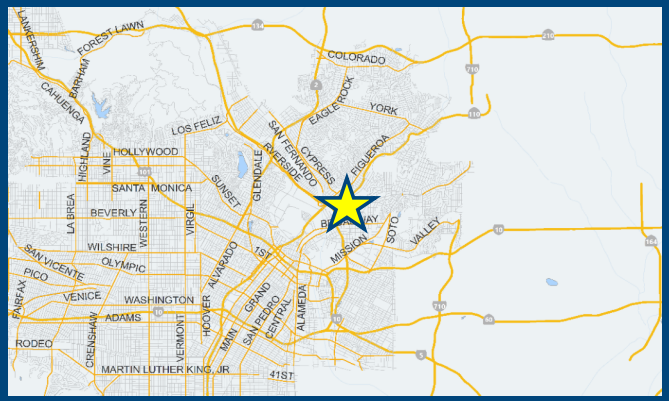
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: Belvedere Development

Scenario: Project

Address: 3208 N PASADENA AVE, 90031



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Light Industrial	8.331	ksf
Housing | Multi-Family	4	DU
Industrial | Light Industrial	8.331	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | General Retail	15.378	ksf
Housing | Multi-Family	100	DU
Retail | General Retail	15.378	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
68 Daily Vehicle Trips	1,018 Daily Vehicle Trips
573 Daily VMT	7,999 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	950 Net Daily Trips
The net increase in daily VMT ≤ 0	7,426 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	15.378 ksf

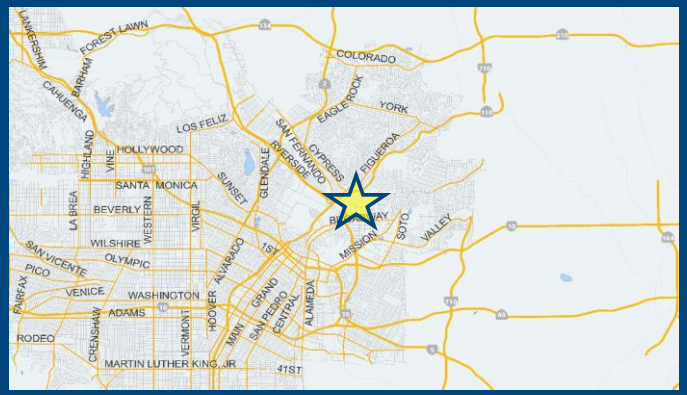
The proposed project is required to perform VMT analysis.

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: Belvedere Development
Scenario: Project
Address: 3208 N PASADENA AVE, 90031



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	100	DU
Retail | General Retail	15.378	ksf

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

A Parking

Reduce Parking Supply ☐ Proposed Prj ☐ Mitigation
- 75 city code parking provision for the project site
- 111 actual parking provision for the project site

Unbundle Parking ☐ Proposed Prj ☑ Mitigation
- 150 monthly parking cost (dollar) for the project site

Parking Cash-Out ☐ Proposed Prj ☐ Mitigation
- percent of employees eligible

Price Workplace Parking ☐ Proposed Prj ☐ Mitigation
- 6.00 daily parking charge (dollar)
- percent of employees subject to priced parking

Residential Area Parking Permits ☐ Proposed Prj ☐ Mitigation
- 200 cost (dollar) of annual permit

B Transit
C Education & Encouragement
D Commute Trip Reductions
E Shared Mobility
F Bicycle Infrastructure
G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
1,012 Daily Vehicle Trips	**967** Daily Vehicle Trips
7,949 Daily VMT	**7,651** Daily VMT
7.3 Household VMT per Capita	**6.0** Household VMT per Capita
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: Yes Threshold = 7.2 15% Below APC	**Household: No** Threshold = 7.2 15% Below APC
Work: N/A Threshold = 12.7 15% Below APC	**Work: N/A** Threshold = 12.7 15% Below APC

Measuring the Miles

8/18/2022

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: August 18, 2022
Project Name: Belvedere Development
Project Scenario: Project
Project Address: 3208 N PASADENA AVE, 90031

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	18%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*1%*	*19%*	*1%*	*1%*	*1%*	*19%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
MAX. TDM EFFECT	*1%*	*19%*	*1%*	*1%*	*1%*	*19%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.