APPENDIX F

Noise & Vibration Report

Selma Wilcox Project

Noise and Vibration

Technical Report

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1.0 INTRODUCTION

The noise and vibration technical report describes the existing noise and vibration environment of the proposed residential project at 6422 Selma Avenue and 1540 Wilcox Avenue in the City of Los Angeles. This study evaluates the potential noise and vibration impacts of the Proposed Project pursuant to the California Environmental Quality Act (CEQA). This analysis considers both the temporary noise and vibration impacts that would result from Project construction and the long-term impacts associated with the operation of the Project.

1.1 PROJECT LOCATION

The Project Site is located at 1540 Wilcox Avenue (Wilcox Site) and 6422 Selma Avenue (Selma Site) in the Hollywood Community Plan Area within the City of Los Angeles. The rectangular-shaped Project Site is approximately 0.35 acres and is bounded by Selma Avenue to the north, Schrader Boulevard to the west, Wilcox Avenue to the east and Sunset Boulevard to the south. Infrastructure wise, there is a commercial building located immediately south of the project site, and multi-family housing buildings immediately west of the site on the corner of Wilcox and Selma Avenue.

1.2 PROJECT DESCRIPTION

The Project Site is currently developed with a one-story commercial building currently occupied by a small business, and a one-story storage building which is vacant. The buildings were constructed in 1909 and 1925, respectively. The Project would demolish the existing one-story storage building, retain and refurbish the front third of the one-story commercial building fronting Selma Avenue, demolish the rest of the building, and construct a new 15-story multi-family residential building containing 45 4-bedroom residential units and 36 on-site parking spaces. The Proposed Project would rise to a maximum building height of approximately 180 feet and five inches (180'-5"), and would include a total square footage of approximately 67,599 square feet, with a Floor Area Ratio (FAR) of 4.5 to 1, providing twelve residential levels above two levels of at- and above-grade stacked parking, and ground-floor residential amenity space. A total of 15 percent of the proposed residential units (six units) would be designated as restricted affordable housing for Very Low Income Households.

Vehicle parking for the Project will be provided in a ground floor parking garage with a lift system, which will include 36 parking spaces. Vehicular access to the Project is proposed via the existing entrance on Selma Ave. The existing building at 6422 Selma Ave. will be partially converted into the parking garage entryway and bicycle storage, retaining the building's façade and first third of the original structure.

2.0 ENVIRONMENTAL SETTING

2.1 FUNDAMENTALS OF NOISE AND VIBRATION

Noise

Noise is usually defined as unwanted sound that is an undesirable byproduct of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, and/or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies. For example, the human ear is less sensitive to low and high frequencies than medium frequencies, which more closely correspond with human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds better with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3 dB(A) increase in noise level. Typically, changes in a community noise level of less than 3 dB(A) are not noticed by the human ear. Changes from 3 to 5 dB(A) may be noticed by some individuals who are sensitive to changes in noise. A greater than 5 dB(A) increase is readily noticeable, while the human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound.

On the A-weighted scale, the range of human hearing extends from approximately 3 to 140 dB(A). **Table 1, A-Weighted Decibel Scale**, provides examples of A-weighted noise levels from common sources. Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6 dB(A) for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB(A) at acoustically "soft" sites.[1] For example, if a noise source produces a noise level of 89 dB(A) at a reference distance of 50 feet, the noise level would be 83 dB(A) at a distance of 100 feet from the noise source, 77 dB(A) at a distance of 200 feet, and so on. Noise generated by a mobile source will decrease by approximately 3 dB(A) over hard surfaces and 4.5 dB(A) over soft surfaces for each doubling of distance.

[1] Federal Highway Administration, *Highway Noise Fundamentals*, (1980) 97. Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely vegetated soils. Examples of acoustically "soft" or absorptive sites include soft, sand, plowed farmland, grass, crops, heavy ground cover, etc.

Table 1
A-Weighted Decibel Scale

Typical A-Weighted Sound Levels	Sound Level (dB(A), Leq)
Threshold of Pain	140
Jet Takeoff at 100 Meters	125
Jackhammer at 15 Meters	95
Heavy Diesel Truck at 15 Meters	85
Conversation at 1 Meter	60
Soft Whisper at 2 Meters	35

Source: United States Occupational Safety & Health Administration, Noise and Hearing Conservation Technical Manual, 1999.

Sound levels also can be attenuated by man-made or natural barriers (e.g., sound walls, berms, ridges), as well as elevational differences. Noise is most audible when traveling by direct line-of-sight, an interrupted visual path between the noise source and noise receptor. Barriers, such as walls or buildings that break the line-of-sight between the source and the receiver, can greatly reduce noise levels from the source since sound can only reach the receiver by diffraction. Sound barriers can reduce sound levels by up to 20 dB(A) or more. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

Solid walls and berms may reduce noise levels by 5 to 10 dB(A) depending on their height and distance relative to the noise source and the noise receptor.[2] Sound levels may also be attenuated 3 dB(A) by a first row of houses and 1.5 dB(A) for each additional row of houses.[3] The minimum noise attenuation provided by typical structures in California is provided in **Table 2, Building Noise Reduction Factors**.

2 Federal Highway Administration, *Highway Noise Mitigation*, (1980) 18.

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

Table 2
Building Noise Reduction Factors

Building Type	Window Condition	Noise Reduction Due to Exterior of the Structure (dB(A))
All	Open	10
Light Frame	Ordinary Sash (closed)	20
	Storm Windows	25
Masonry	Single Glazed	25
	Double Glazed	35

Source: Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance. December 2011.

Sound Rating Scales

Various rating scales approximate the human subjective assessment to the "loudness" or "noisiness" of a sound. Noise metrics have been developed to account for additional parameters, such as duration and cumulative effect of multiple events. Noise metrics are categorized as single event metrics and cumulative metrics, as summarized below.

In order to simplify the measurement and computation of sound loudness levels, frequency weighted networks have obtained wide acceptance. The A-weighted scale, discussed above, has become the most prominent of these scales and is widely used in community noise analysis. Its advantages are that it has shown good correlation with community response and is easily measured. The metrics used in this analysis are all based upon the dB(A) scale.

Equivalent Noise Level

Equivalent Noise Level (Leq) is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as several single event noise exposure level events during a given sample period. Leq is the "acoustic energy" average noise level during the period of the sample. It is based on the observation that the potential for noise annoyance is dependent on the total acoustical energy content of the noise. The equivalent noise level is expressed in units of dB(A). Leq can be measured for any period, but is typically measured for 15 minutes, 1 hour, or 24 hours. Leq for a 1-hour period is used by the Federal Highway Administration (FHWA) for assessing highway noise impacts. Leq for 1 hour is referred to as the Hourly Noise Level (HNL) in the California Airport Noise Regulations and is used to develop Community

Noise Equivalent Level values for aircraft operations. Construction noise levels and ambient noise measurements in this section use the Leq scale.

Community Noise Equivalent Level

Community Noise Equivalent Level (CNEL) is a 24-hour, time-weighted energy average noise level based on the A-weighted decibel. It is a measure of the overall noise experienced during an entire day. The term "time-weighted" refers to the penalties attached to noise events occurring during certain sensitive periods. In the CNEL scale, 5 dB are added to measured noise levels occurring between the hours of 7:00 p.m. and 10:00 p.m. For measured noise levels occurring between the hours of 10:00 p.m. and 7:00 a.m., 10 dB are added. These decibel adjustments are an attempt to account for the higher sensitivity to noise in the evening and nighttime hours and the expected lower ambient noise levels during these periods. Existing and projected future traffic noise levels in this section use the CNEL scale.

Day-Night Average Noise Level

The day-night average sound level (Ldn) is another average noise level over a 24-hour period. Noise levels occurring between the hours of 10:00 p.m. and 7:00 a.m. are increased by 10 decibels (dB). This noise is weighted to take into account the decrease in community background noise of 10 dB(A) during this period. Noise levels measured using the Ldn scale are typically similar to CNEL measurements.

Adverse Effects of Noise Exposure

Noise is known to have several adverse effects on humans, which has led to laws and standards being set to protect public health and safety, and to ensure compatibility between land uses and activities. Adverse effects of noise on people include hearing loss, communication interference, sleep interference, physiological responses, and annoyance. Each of these potential noise impacts on people is briefly discussed in the following narrative.

Hearing Loss

Hearing loss is generally not a community noise concern, even near a major airport or a major freeway. The potential for noise-induced hearing loss is more commonly associated with occupational noise exposures in heavy industry, very noisy work environments with long-term exposure, or certain very loud recreational activities (e.g., target shooting and motorcycle or car racing). The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dB(A) for 8 hours per day to protect from hearing loss (higher limits are allowed for shorter duration exposures). Noise levels in neighborhoods, even in very noisy neighborhoods, are not sufficiently loud enough to cause hearing loss.

Communication Interference

Communication interference is one of the primary concerns in environmental noise. Communication interference includes speech disturbance and intrusion with activities such as watching television. Noise can also interfere with communications such as within school classrooms. Normal conversational speech is in the range of 60 to 65 dB(A) and any noise in this range or louder may interfere with speech.

Sleep Interference

Noise can make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and cause awakening. Noise may even cause awakening that a person may or may not be able to recall.

Physiological Responses

Physiological responses are those measurable effects of noise on people that are realized as changes in pulse rate, blood pressure, and other physical changes. Studies to determine whether exposure to high noise levels can adversely affect human health have concluded that, while a relationship between noise and health effects seems plausible, there is no empirical evidence of the relationship.

Annoyance

Annoyance is an individual characteristic and can vary widely from person to person. Noise that one person considers tolerable can be unbearable to another of equal hearing capability. The level of annoyance depends both on the characteristics of the noise (including loudness, frequency, time, and duration), and how much activity interference (such as speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that 2% to 10% of the population is highly susceptible to annoyance from any noise not of their own making, while approximately 20% are unaffected by noise. Attitudes may also be affected by the relationship between the person affected and the source of noise, and whether attempts have been made to abate the noise.

2.2 NOISE SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as natural parks and recreation areas, historic sites, and cemeteries are considered sensitive to increases in exterior

noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. Noise-sensitive receptors surrounding the project site include the Dream Hotel to the northeast of the Project Site across Selma Avenue, the Gilbert Hotel to the west adjacent to the Project Site along Wilcox Avenue, the Wilcox Hotel to the north of the Project Site.

Vibration

Vibration consists of waves transmitted through solid material. Groundborne vibration propagates from a source through the ground to adjacent buildings by surface waves. Vibration may comprise a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating and is measured in hertz (Hz). Most environmental vibrations consist of a composite, or "spectrum" of many frequencies, and are generally classified as broadband or random vibrations. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than one Hz to a high of about 200 Hz. Vibration is often measured in terms of the peak particle velocity (PPV) in inches per second (in/sec) when considering impacts on buildings or other structures, as PPV represents the maximum instantaneous peak of vibration that can stress buildings. Because it is a representation of acute vibration, PPV is often used to measure the temporary impacts of short-term construction activities that could instantaneously damage built structures. Vibration is often also measured by the Root Mean Squared (RMS) because it best correlates with human perception and response. Specifically, RMS represents "smoothed" vibration levels over an extended period of time and is often used to gauge the long-term chronic impact of a project's operation on the adjacent environment. RMS amplitude is the average of a signal's squared amplitude. It is most commonly measured in decibel notation (VdB).

Vibration energy attenuates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High frequency vibrations reduce much more rapidly than low frequencies, so that in the far-field from a source, the low frequencies tend to dominate. Soil properties also affect the propagation of vibration. When groundborne vibration interacts with a building, there is usually a ground-to-foundation coupling loss (i.e., the foundation of the structure does not move in sync with the ground vibration), but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves, or the motion of building surfaces. At high levels, vibration can result in damage to structures.

Manmade groundborne vibration is generally limited to areas within a few hundred feet of certain types of construction activities, especially pile driving. Road vehicles rarely create enough groundborne vibration to be perceptible to humans unless the road surface is poorly maintained and there are potholes or bumps. If traffic induces perceptible vibration in buildings, such as window rattling or shaking of small loose items

(typically caused by heavy trucks in passing), then it is most likely an effect of low-frequency airborne noise or ground characteristics. Human annoyance by vibration is related to the number and duration of events. The more events or the greater the duration, the more annoying it will be to humans.

2.3 EXISTING CONDITIONS

Noise

A noise monitoring survey was completed to establish existing noise levels in the vicinity of the project site. Transportation noise is the main source of noise in urban environments, largely from the operation of internal combustion engines and frictional contact between vehicles and ground and air.[4] It should be noted that due to the ongoing Coronavirus pandemic, traffic volumes are likely lower than usual. Therefore, noise measurements that were conducted in February 2021 are likely lower than pre-pandemic conditions and therefore conservative measurements for the existing noise environment. **Figure 1, Noise Monitoring Locations** maps the noise measurement locations relative to the project site. The existing average daily noise levels are presented in **Table 4, Ambient Sound-Level Readings.**

Table 4
Ambient Sound-Level Readings

Noise Measurement Location #	Street Address	dB(A) Leq
Location #1	6417 Selma Ave (Dream Hollywood Hotel)	75.8
Location #2	1622 Wilcox Ave (Wilcox Hotel)	62.4
Location #3	1550 Wilcox Ave (Gilbert Hotel)	68.6
Location #4	6371 Selma Ave (commercial uses)	70.0

Source: Impact Sciences, Inc., February 2021

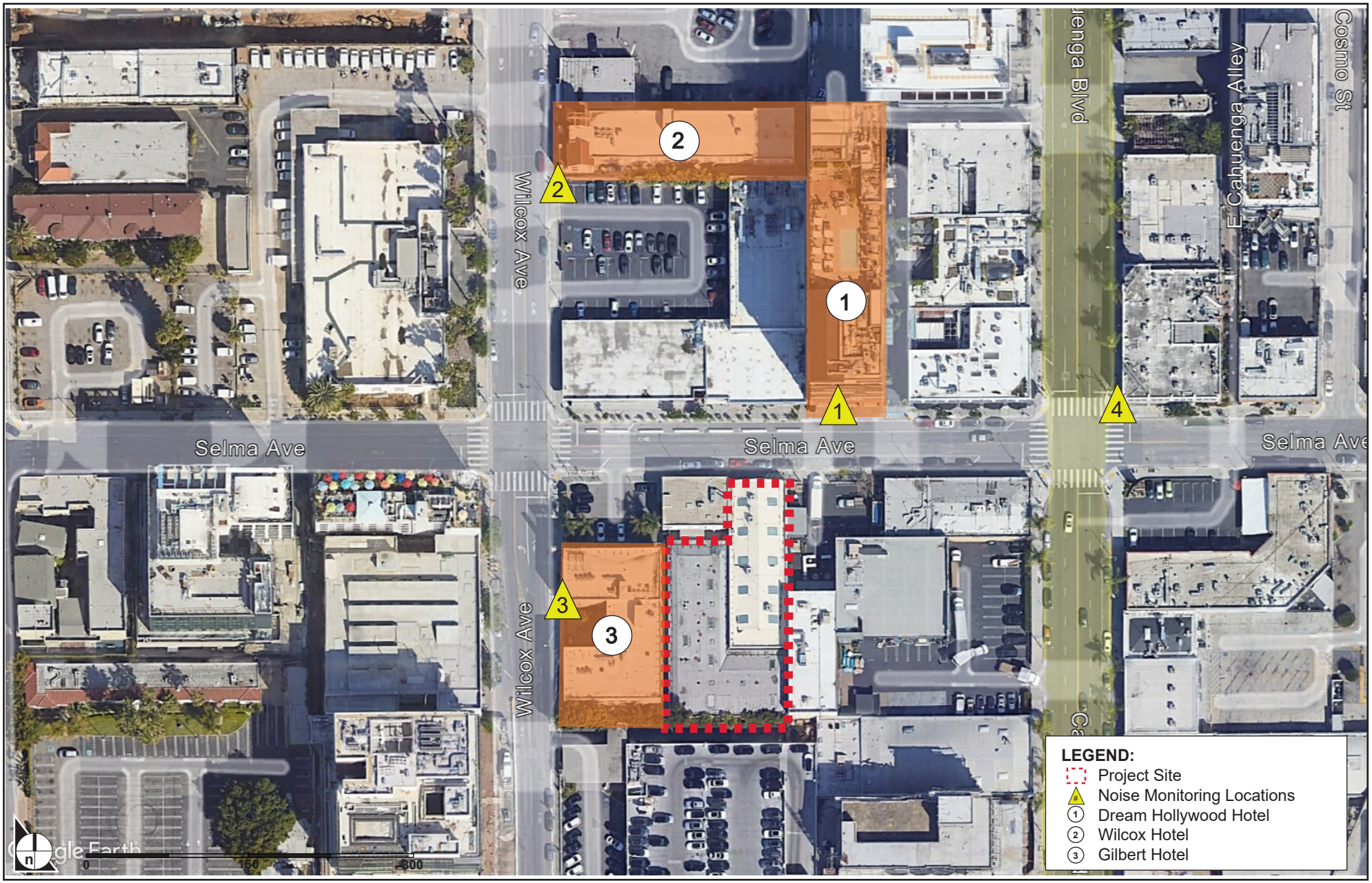
Vibration

The only sources of groundborne vibration in the Project Site vicinity are heavy-duty vehicles (e.g., refuse trucks, delivery trucks, and school buses) traveling on local roadways. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks

4 World Health Organization, https://www.who.int/docstore/peh/noise/Comnoise-2.pdf accessed July 2, 2020.

and buses pass over bumps in the road.[5] In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.

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



SOURCE: Google Earth, 2022

FIGURE **1**

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Noise Monitoring Locations

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3.0 REGULATORY FRAMEWORK

3.1 STATE REGULATIONS

Title 24, California Code of Regulations

The California Noise Insulation Standards of 1988 (California Code of Regulations Title 24, Section 3501 et seq.) require that interior noise levels from the exterior sources not exceed 45 dB(A) Ldn/community noise equivalent level (CNEL)[6] in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings) with doors and windows closed. Where exterior noise levels exceed 60 dB(A) CNEL/Ldn, an acoustical analysis is required to show that the building construction achieves an interior noise level of 45 dB(A) CNEL/Ldn or less.

3.2 LOCAL PLANS AND POLICIES

City of Los Angeles Municipal Code

The LAMC provides two types of noise standards that are relevant to this analysis: 1) construction noise standards, and 2) general noise ordinance standards. The construction noise standards apply only to construction activities, while the general noise ordinance standards apply to noise generated by land use activities. **Table 5** shows the State's noise and land use compatibility chart.

Construction Noise Standards

The City of Los Angeles Municipal Code (LAMC) has established noise regulations for both short-term construction activities and long-term operation of a project. The LAMC regulates noise from any powered equipment or powered hand tool in a residential zone (or within 500 feet) at a distance of 50 feet between 7:00 AM and 10:00 PM to the following:

- 75 dB(A) 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;

6 Measurements are based on Ldn or CNEL.

- 75 dB(A) for powered equipment of 20 horse-power or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

- 65 dB(A) for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools.[7]

These noise limits do not apply where compliance is deemed technically infeasible. Specifically, such activities are allowed when it is demonstrated that compliance is not possible "despite the use of mufflers, shields, sound barriers, and/or other noise reduction device or techniques during the operation of the equipment."[8]

Section 41.40 of the LAMC also prohibits construction activity from occurring between 9:00 PM and 7:00 AM Monday through Friday, and between 6:00 PM and 8:00 AM on Saturday.[9] This is intended to protect persons occupying sleeping quarters in any hotel, apartment, or other place of residence. Construction noise intruding onto property zoned for manufacturing or industrial uses is exempt from these standards.

General Noise Ordinance

LAMC Chapter XI, "Noise Regulation," regulates noise from non-transportation noise sources such as commercial or industrial operations, mechanical equipment or residential activities. Although these regulations do not apply to vehicles operating on public rights-of-way, the regulations do apply to noise generated by vehicles on private property, such as truck operations at commercial or industrial facilities. The exact noise standards vary depending on the type of noise source, but the allowable noise levels are generally determined relative to the existing ambient noise levels at the affected location. LAMC Section 111.01 (a) defines the ambient noise as "the composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise sources and of the particular noise source or sources to be measured. Ambient noise shall be averaged over a period of at least 15 minutes."

Section 112.01 of the LAMC would prohibit any amplified noises, especially those from outdoor sources (e.g., outdoor speakers, stereo systems, etc.) from exceeding the ambient noise levels of adjacent properties by more than 5 dB(A). Amplified noises would also be prohibited from being audible at any distance greater than 150 feet from the Project's property line.

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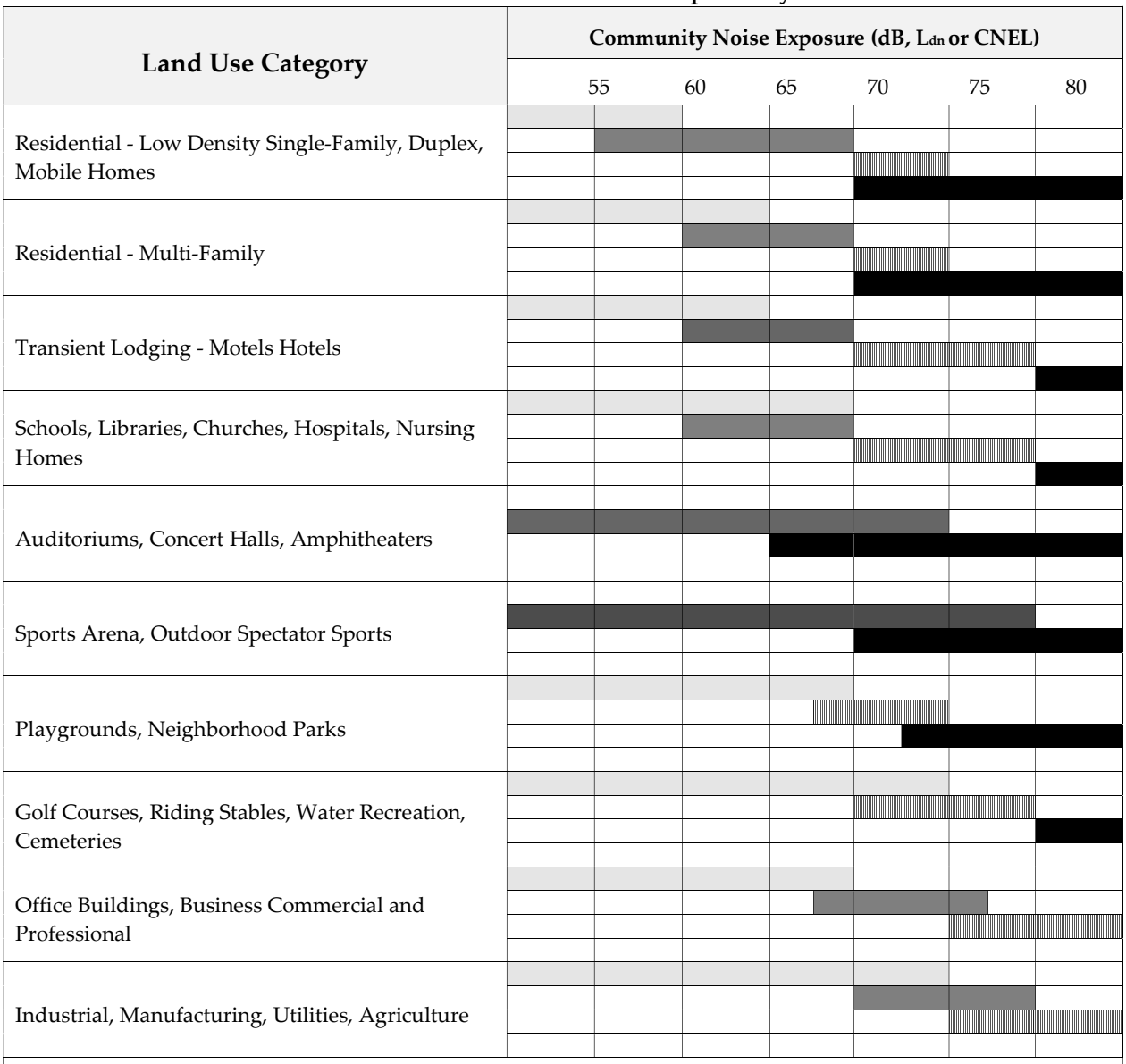
7 City of Los Angeles, Municipal Code Chapter XI-Noise Regulation (Section 112.05), 1986.

8 Ibid.

9 City of Los Angeles, Municipal Code Chapter IV-Public Welfare (Section 41.40), 1984.

LAMC Section 112.02 (a) would prevent project HVAC systems and other mechanical equipment from elevating noise levels at neighboring residences by more than 5 dB(A).

Table 5
State of California Noise/Land Use Compatibility Matrix



Source: California Office of Planning and Research, General Plan Guidelines - Noise Element Guidelines (Appendix C), 2003.

4.0 NOISE AND VIBRATION ANALYSIS

4.1 THRESHOLDS OF SIGNIFICANCE

The impacts of the proposed project related to noise would be considered significant if they would exceed any of the following Thresholds of Significance, in accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
    - Construction noise impacts would be significant if the Project violates Section 41.40 of the LAMC, which prohibits construction activity from occurring between 9:00 PM and 7:00 AM Monday through Friday, and between 6:00 PM and 8:00 AM on Saturday. This is intended to protect persons occupying sleeping quarters in any hotel, apartment, or other place of residence. In addition, construction noise impacts would be significant if as indicated in LAMC Section 112.05, noise from construction equipment within 500 feet of a residential zone exceeds 75 A-weighted decibels (dBA) at a distance of 50 feet from the noise source. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment. While the Project Site is not located within 500 feet of a residential zone, this analysis has conservatively applied this standard as there are hotels located in the vicinity.
    - Operational noise impacts would be significant if the ambient noise level measured at the property line of affected uses increases by 3 dB(A) CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or if the ambient noise level measured at the property line of affected uses increases by 5 dB(A) CNEL or more. These "normally unacceptable" and "clearly unacceptable" categories refer to those outlined by the State's noise and land-use compatibility chart, shown in Table 5.
    - .
- Generation of excessive groundborne vibration or groundborne noise levels;

- For a project located within the vicinity of a private airstrip or 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.

4.2 METHODOLOGY

Noise levels associated with project-related construction activities were calculated using the FHWA Roadway Construction Noise Model (RCNM) and evaluated with existing ambient noise levels to determine new ambient noise levels with construction activities. The California Emissions Estimator Model (CalEEMod) construction equipment assumptions were used to develop a construction equipment list used for RCNM inputs. Noise levels were compared to the City's noise ordinance which includes provisions regarding construction noise levels.

Traffic noise in the project area was estimated using average daily traffic information obtained for the project to get a percentage of increase to traffic volumes. Studies have shown that a 3 dB(A) increase in sound level pressure is barely detectable by the human ear. A 3 dB(A) increase in roadway noise levels requires an approximate doubling of roadway traffic volume, assuming that travel speeds and fleet mix remain constant.[10]

4.3 PROJECT IMPACTS AND MITIGATION MEASURES

Impact NOI-1 **Would the proposed project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (*Less than Significant with Mitigation*)**

Construction Impacts

Temporary on-Site Construction Activity Noise

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-site activities could include the use of heavy equipment such as excavators and loaders, as well as smaller equipment such as saws, hammers, and pneumatic tools.

10 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Protocol.* September 2013.

Noises from demolition and grading activities are typically the foremost concern when evaluating a project's construction noise impacts, as these activities often require the use of heavy-duty, diesel-powered earthmoving equipment. The types of heavy equipment required for these activities may include excavators, bulldozers, front-end loaders, graders, backhoes, and scrapers.

For this Project, construction noise levels were estimated using the FHWA Roadway Construction Noise Model (RCNM) based on the Project's anticipated construction equipment identified in the Project's Air Quality and Greenhouse Gas Technical Report provided as Appendix B to the SCEA. The Project's peak estimated unmitigated construction noise levels are shown in **Table 6, Construction Noise Impacts at Off-Site Sensitive Receptors – Unmitigated** and summarized below.

Table 6
Construction Noise Impacts at Off-Site Sensitive Receptors (without Mitigation)

Receptor	Maximum Construction Noise Level (dB(A) L_{eq})	Existing Ambient Noise Level (dB(A) L_{eq})	Above LAMC 75 dB(A) Limit?
Location #1 - 6417 Selma Ave (Dream Hollywood Hotel)	74.6	75.8	No
Location #2 - 1622 Wilcox Ave (Wilcox Hotel)	68.2	62.4	No
Location #3 - 1550 Wilcox Ave (Gilbert Hotel)	84.2	68.6	Yes
Location #4 - 6371 Selma Ave (commercial uses)	69.2	70.0	No

Source: Impact Sciences, 2021
Note: Measurement Location #4 is a commercial use and not considered a sensitive use but is show for information purposes regarding ambient noise level increases at the intersection of Cahuenga Blvd. and Selma Ave.

As stated previously, construction noise impacts would be significant if, as indicated in LAMC Section 112.05, noise from construction equipment within 500 feet of a residential zone exceeds 75 A-weighted decibels (dBA) at a distance of 50 feet from the noise source. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment. Although the estimated unmitigated construction-related noise levels associated with the Project could exceed the noise standard of 75 dBA at 50 feet from the noise source as outlined in LAMC Section 112.05, the Project would implement all technically feasible reduction measures in compliance with the standards set forth in LAMC Section 112.05. Specifically, **Mitigation Measure NOI-1**, which requires the use of improved mufflers and silencers, would

achieve an approximately 10 dBA reduction.[11] The Project would also implement additional techniques to reduce construction noise levels as required by the LAMC. For example, construction activities would be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels. Further, noise and groundborne vibration construction activities whose specific location on the site are flexible (e.g., operation of compressors or generators, cement mixing, and general truck idling) will be conducted as far as possible from the nearest noise- and vibration-sensitive land uses. However, given the fluid dynamics of a construction site, this analysis conservatively does not take any quantified reduction associated with these techniques. See **Table 7, Construction Impacts at Off-Site Sensitive Receptors (with Mitigation)**, below which illustrates the effectiveness of **Mitigation Measure NOI-1**. With the implementation of **Mitigation Measure NOI-1**, construction noise levels would be reduced in a manner consistent with the LAMC, and impacts would be less than significant.

Mitigation Measures:

MM-NOI-1: Noise-generating equipment operated at the Project Site shall be equipped with noise control devices, such as mufflers, lagging (enclosures for exhaust pipes), and/or motor enclosures capable of reducing construction equipment noise by 10 dBA. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.[12]

11 Based on information from the United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971. Per Table V, Noise Control For Construction Equipment therein, use of improved mufflers/silencers would achieve approximately 10 dBA reduction.

12 See United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971. Per Table V, Noise Control For Construction Equipment therein, use of improved mufflers/silencers would achieve approximately 10 dBA reduction.

Table 7
Construction Noise Impacts at Off-Site Sensitive Receptors (with Mitigation)

Receptor	Maximum Construction Noise Level (dB(A) L_{eq})	Existing Ambient Noise Level (dB(A) L_{eq})	Above LAMC 75 dB(A) Limit?
Location #1 - 6417 Selma Ave (Dream Hollywood Hotel)	64.6	75.8	No
Location #2 - 1622 Wilcox Ave (Wilcox Hotel)	58.2	62.4	No
Location #3 - 1550 Wilcox Ave (Gilbert Hotel)	74.2	68.6	No
Location #4 - 6371 Selma Ave (commercial uses)	59.2	70.0	No

Source: Impact Sciences, 2022.
Note: Measurement Location #4 is a commercial use and not considered a sensitive use but is shown for informational purposes regarding ambient noise level increases at the intersection of Cahuenga Blvd. and Selma Ave.

Temporary Off-Site Construction Activity Noise

Construction haul trucks would generate noise off-site during site demolition and would peak during grading. This would include removal of materials from the project site, base materials, and demolished materials. While this vehicle activity would increase ambient noise levels along the haul route, ambient noise levels would not be expected to significantly increase ambient noise levels by 3 dB(A) or greater at any noise sensitive land use. Studies have shown that a 3 dB(A) increase in sound level pressure is barely detectable by the human ear.

A 3 dB(A) increase in roadway noise levels requires an approximate doubling of roadway traffic volume, assuming that travel speeds and fleet mix remain constant.[13] While this vehicle activity would marginally increase ambient noise levels along the haul route, it would not be expected to significantly increase ambient noise levels by 5 dB(A) or greater at any noise sensitive land uses. A 3 dB(A) increase in roadway noise levels requires an approximate doubling of roadway traffic volume, assuming that travel speeds and fleet mix remain constant.

13 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Protocol.* September 2013.

Average daily traffic (ADT) counts from the City of Los Angeles Department of Transportation were used to estimate the existing traffic along Selma Avenue near the project site. Traffic counts indicate average daily traffic along Selma Avenue near the project site to be approximately 2,759 vehicles per day.[14]

The demolition phase for project construction would average approximately 16 haul truck trips per day. Because haul trucks generate more noise than traditional passenger vehicles, a 19.1 passenger car equivalency (PCE) was used to convert haul truck trips to a reference level conversion to an equivalent number of passenger vehicles.[15] Therefore, 16 haul truck trips would account for approximately 305 PCE trips per day during the demolition phase. This would account for approximately 11.1 percent of the daily traffic that passes through Selma Avenue near the project site. Since it would take a doubling (i.e. a 100 percent increase) of roadway traffic volume to increase noise levels by 3 dB(A), the addition of haul trucks from the project would not increase traffic to levels capable of producing 3 dB(A) ambient noise increases.

Though the addition of haul trucks would alter the fleet mix of the Project haul route, their minimal addition to local roadways would not nearly double those roads' traffic volumes, let along augment their traffic to levels capable of producing 5 dB(A) ambient noise increases. As a result, off-site construction noise impacts related to haul trips would be considered less than significant.

Operational Impacts

Operational Traffic Noise

As discussed above, a 3 dB(A) increase in roadway noise levels requires an approximate doubling of roadway traffic volume, assuming that travel speeds and fleet mix remain constant. A 3 dB(A) noise level increase is the minimum noise level increase required for a human to perceive a change in ambient noise.

Traffic volumes in the project area were obtained from the Los Angeles Department of Transportation traffic count information. Traffic counts indicate average daily traffic along Selma Avenue near the project site to be approximately 2,759 vehicles per day.[16]

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14 City of Los Angeles Department of Transportation. May 2015. 2 Nu-Metrics Traffic Analyzer Study Computer Generated Summary Report. Available at: https://navigatela.lacity.org/dot/traffic_data/survey_data/selma.bet.wilcoxandschrader.eb.1.150521-num.pdf, accessed April 13, 2021.

15 Caltrans, Technical Noise Supplement Table 3-3, 2013.

16 City of Los Angeles Department of Transportation. May 2015. 2 Nu-Metrics Traffic Analyzer Study Computer Generated Summary Report. Available at: https://navigatela.lacity.org/dot/traffic_data/survey_data/selma.bet.wilcoxandschrader.eb.1.150521-num.pdf, accessed April 13, 2021.

Trip generation information for the Proposed Project was added to average daily traffic volumes for to determine whether traffic increased enough to result in an audible noise level increase. The DOT Traffic Count shows that near the project site, Selma Avenue has a daily traffic volume of approximately 2,759 vehicles. The Project is estimated to have a net increase of 126 daily vehicle trips. An increase of 126 trips would account for approximately 4.6 percent of the average daily traffic volume near the Project Site. This volume is not nearly the doubling (i.e., 100 percent increase) of traffic volume required for a 3 dB(A) increase in noise. This increase in traffic volumes compared to current counts is not significant enough to cause an audible increase in traffic noise and impacts would be less than significant.

Operational Stationary Noise

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 dB(A). Given this regulation, ambient noise levels, and the relatively quiet operation of modern HVAC systems, these on-site noise sources would not be capable of causing the ambient noise levels of nearby uses to increase by 3 dB(A) CNEL to or within their respective "normally unacceptable" or "clearly unacceptable" noise categories, or by 5 dB(A) or greater overall.

Parking noise typically generates noise levels of approximately 60 dB(A) at 50 feet. However, parking from the project would occur on the first two levels of the residential building with the driveway along Selma Avenue. Parking noise from within the structure would likely be inaudible, or at the very least considerably attenuated at nearby receptors. These parking noises would not exceed the normally acceptable level of noise identified in **Table 5**. Therefore, parking noise would result in a less than significant impact.

Impact NOI-2 **Would the proposed project result in the generation of excessive groundborne vibration or groundborne noise levels? *(Less than Significant with Mitigation).***

The Federal Transit Administration provides groundborne vibration impact criteria with respect to building damage during construction activities. PPV, expressed in inches per second, is used to measure building vibration damage. Construction vibration damage criteria are assessed based on structural category (e.g. reinforced-concrete, steel, or timber). FTA guidelines consider 0.2 inch/sec PPV to be the significant impact level for non-engineered timber and masonry buildings. Structures or buildings constructed of reinforced concrete, steel, or timber have a vibration damage criterion of 0.5 inch/sec PPV pursuant to FTA guidelines.[17]

17 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual. September* 2018.

Groundborne vibration generated by construction activities associated with the proposed project would affect sensitive uses located in close proximity to the project site. **Table 8, Vibration Levels at Off-Site Sensitive Uses from Project Construction** shows the estimated vibration velocities for nearby sensitive receptors.

Table 8
Vibration Levels at Off-Site Sensitive Uses from Project Construction (without mitigation)

Sensitive Uses Off-Site	Distance to Project Site (ft.)	Receptor Significance Threshold PPV (in/sec)	Estimated PPV (in/sec)
Location #1 - 6417 Selma Ave (Dream Hollywood Hotel)	150	0.5	0.006
Location #2 - 1622 Wilcox Ave (Wilcox Hotel)	315	0.2	0.002
Location #3 - 1550 Wilcox Ave (Gilbert Hotel)	10	0.2	0.352
Location #4 - 6371 Selma Ave (commercial uses)	280	0.5	0.002

Source: Impact Sciences, 2021.

The vibration velocities predicted to occur at the nearest sensitive receptors at the Gilbert Hotel would be 0.352 in/sec PPV. It should be noted that this would be a worst-case scenario when potential heavy construction equipment would be located near the closest boundary to the Gilbert Hotel. Furthermore, construction equipment does not typically operate on the property line edge but is set back which would further reduce vibration impacts. Nevertheless, due to the close proximity of the Gilbert Hotel to the project site, **Mitigation Measure NOI-2** would be required to reduce potential construction vibration impacts on off-site receptors to a less than significant level.

Furthermore, the Historic Resources Assessment Report for the Proposed Project noted that vibration impacts from Project construction could potentially impact the existing on-site structure (Baker Garage) at 6422 Selma Avenue, which is noted to be closely tied to both the history of early Hollywood and the development of the automobile in Los Angeles. **Mitigation Measure NOI-2** would ensure that vibration impacts to both off-site and on-site receptors are less than significant.

Mitigation Measures:

MM-NOI-2: Prior to the start of construction, surveys shall be performed to document the conditions of the masonry of the remaining walls at 6422 Selma Avenue as well as the Gilbert Hotel

building. A structural monitoring program shall be implemented and recorded during construction to ensure that ground borne vibration levels do not exceed 0.12 inches per second, PPV. The structural monitoring plan shall include documentation, consisting of video and/or photographic documentation of accessible and visible areas on the exterior of the buildings. A historic architect (meeting the SOI's Professional Qualification Standards) or structural engineer with experience with historic masonry buildings shall establish baseline structural conditions of the building and prepare the shoring design. Additionally, a qualified acoustical engineer shall be retained to review the proposed construction equipment and develop and implement a vibration monitoring program capable of documenting the construction-related ground vibration levels at the Project site during demolition and excavation phases where heavy construction equipment (e.g., large bulldozer and drill rig) would be operating within 15 feet of the affected buildings.

The vibration monitoring system shall measure and continuously store the peak particle velocity (PPV) in inch/second. Vibration data shall be stored on a one-second interval. The system shall also be programmed for two preset velocity levels: a warning level of 0.07 inch/second (PPV) and a regulatory level of 0.12 inch/second (PPV). The system shall also provide real-time alert when the vibration levels exceed either of the two preset levels.

- In the event the warning level of 0.07 inch/second (PPV) is triggered, the contractor shall identify the source of vibration generation and provide steps to reduce the vibration level, including but not limited to halting/staggering concurrent activities and utilizing lower vibratory techniques.

- In the event the regulatory level of 0.12 inch/second (PPV) is triggered, the contractor shall halt the construction activities and visually inspect the Baker Garage for any damage. Results of the inspection must be logged. The contractor shall identify the source of vibration generation and provide steps to reduce the vibration level. Vibration measurement shall be made with the new construction method to verify that the vibration level is below the warning level of 0.07 inch/second (PPV). Construction activities may then restart.

- In the event damage occurs to historic finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant.

The structure-monitoring program shall be submitted to the Department of Building and Safety and received into the case file for the associated discretionary action permitting the Project prior to initiating any construction activities.

Implementation of **Mitigation Measure NOI-2** would require the development of a vibration monitoring program. The program would include real time monitoring of vibration levels which would alert when vibration levels reach a warning level of 0.07 in./sec. PPV and a regulatory level of 0.12 in./sec. PPV. Therefore, vibration impacts associated with building damage due to construction activities would result in a less than significant impact with mitigation.

Impact NOI-3 **For a project located within the vicinity of a private airstrip or 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? *(No Impact).***

The project site is not in the vicinity of a private airstrip or airport land use plan. Likewise, the project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport is the Bob Hope Airport located approximately 6.5 miles to the north of the Project Site. As such, the project would not expose people residing or working in the project area to excessive airport-related noise levels. No impact would occur from the proposed project and no further analysis is required.


IMPACT
SCIENCES

Measurement Report

Report Summary

Meter's File Name	LxT_Data.066.s	Computer's File Name	LxT_0005667-20210209 122225-LxT_Data.066.ldbin
Meter	LxT1 0005667		
Firmware	2.302		
User		Location	
Job Description			
Note			
Start Time	2021-02-09 12:22:25	Duration	0:15:00.0
End Time	2021-02-09 12:37:25	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	75.8 dB		
LAE	105.3 dB	SEA	131.9 dB
EA	3.8 mPa²h		
EA8	121.4 mPa²h		
EA40	607.0 mPa²h		
LZ_{peak}	121.9 dB	2021-02-09 12:29:11	
LAS_{max}	101.1 dB	2021-02-09 12:29:11	
LAS_{min}	51.6 dB	2021-02-09 12:32:21	
LA_{eq}	75.8 dB		
LC_{eq}	81.9 dB	LC_{eq} - LA_{eq}	6.1 dB
LAI_{eq}	78.6 dB	LAI_{eq} - LA_{eq}	2.8 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	1	0:00:08.2
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	75.8 dB		81.9 dB		--- dB	
$Ls_{(max)}$	101.1 dB	2021-02-09 12:29:11	--- dB		--- dB	
$LS_{(min)}$	51.6 dB	2021-02-09 12:32:21	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		121.9 dB	2021-02-09 12:29:11

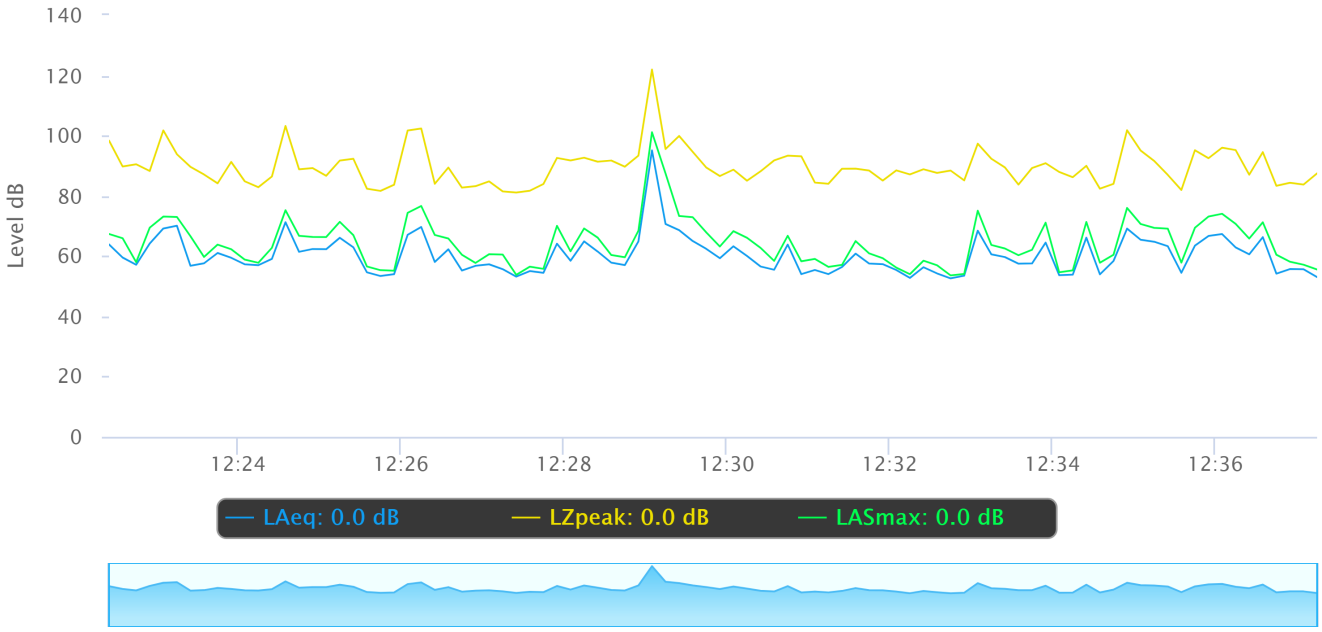
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	70.6 dB
LAS 10.0	67.4 dB
LAS 33.3	60.5 dB
LAS 50.0	58.0 dB
LAS 66.6	56.3 dB
LAS 90.0	53.5 dB

Time History



Measurement Report

Report Summary

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Meter	LxT1 0005667		
Firmware	2.302		
User		Location	
Job Description			
Note			
Start Time	2021-02-09 12:40:22	Duration	0:15:00.0
End Time	2021-02-09 12:55:22	Run Time	0:15:00.0
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	62.4 dB		
LAE	91.9 dB	SEA	--- dB
EA	174.0 µPa²h		
EA8	5.6 mPa²h		
EA40	27.8 mPa²h		
LZ_{peak}	100.7 dB	2021-02-09 12:48:50	
LAS_{max}	78.1 dB	2021-02-09 12:48:50	
LAS_{min}	53.0 dB	2021-02-09 12:49:53	
LA_{eq}	62.4 dB		
LC_{eq}	73.0 dB	LC_{eq} - LA_{eq}	10.6 dB
LAI_{eq}	64.3 dB	LAI_{eq} - LA_{eq}	1.9 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	62.4 dB		73.0 dB		--- dB	
$Ls_{(max)}$	78.1 dB	2021-02-09 12:48:50	--- dB		--- dB	
$LS_{(min)}$	53.0 dB	2021-02-09 12:49:53	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		100.7 dB	2021-02-09 12:48:50

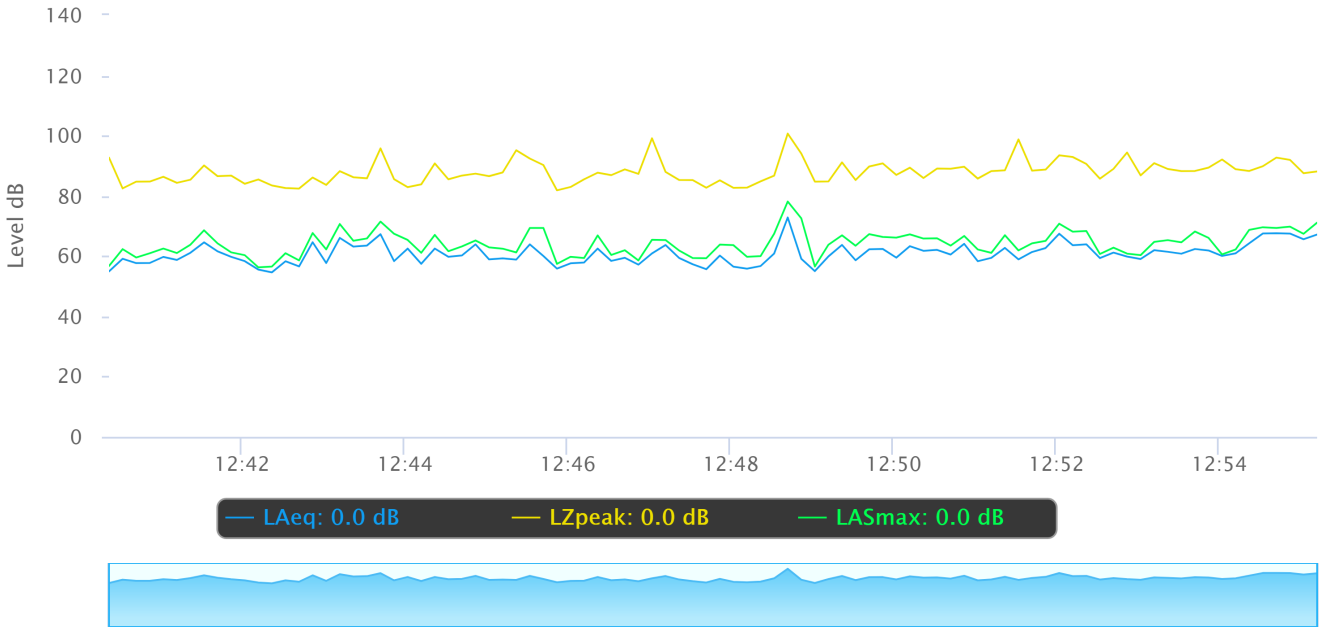
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	67.2 dB
LAS 10.0	65.7 dB
LAS 33.3	61.3 dB
LAS 50.0	59.8 dB
LAS 66.6	58.3 dB
LAS 90.0	55.9 dB

Time History



Measurement Report

Report Summary

Meter's File Name	LxT_Data.068.s	Computer's File Name	LxT_0005667-20210209 125654-LxT_Data.068.ldbin
Meter	LxT1 0005667		
Firmware	2.302		
User		Location	
Job Description			
Note			
Start Time	2021-02-09 12:56:54	Duration	0:15:00.0
End Time	2021-02-09 13:11:54	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	68.6 dB		
LAE	98.1 dB	SEA	--- dB
EA	723.1 µPa²h		
EA8	23.1 mPa²h		
EA40	115.7 mPa²h		
LZ_{peak}	115.3 dB	2021-02-09 12:56:57	
LAS_{max}	81.6 dB	2021-02-09 12:58:13	
LAS_{min}	55.3 dB	2021-02-09 13:05:38	
LA_{eq}	68.6 dB		
LC_{eq}	76.0 dB	LC_{eq} - LA_{eq}	7.4 dB
LAI_{eq}	71.3 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	68.6 dB		76.0 dB		--- dB	
$Ls_{(max)}$	81.6 dB	2021-02-09 12:58:13	--- dB		--- dB	
$LS_{(min)}$	55.3 dB	2021-02-09 13:05:38	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		115.3 dB	2021-02-09 12:56:57

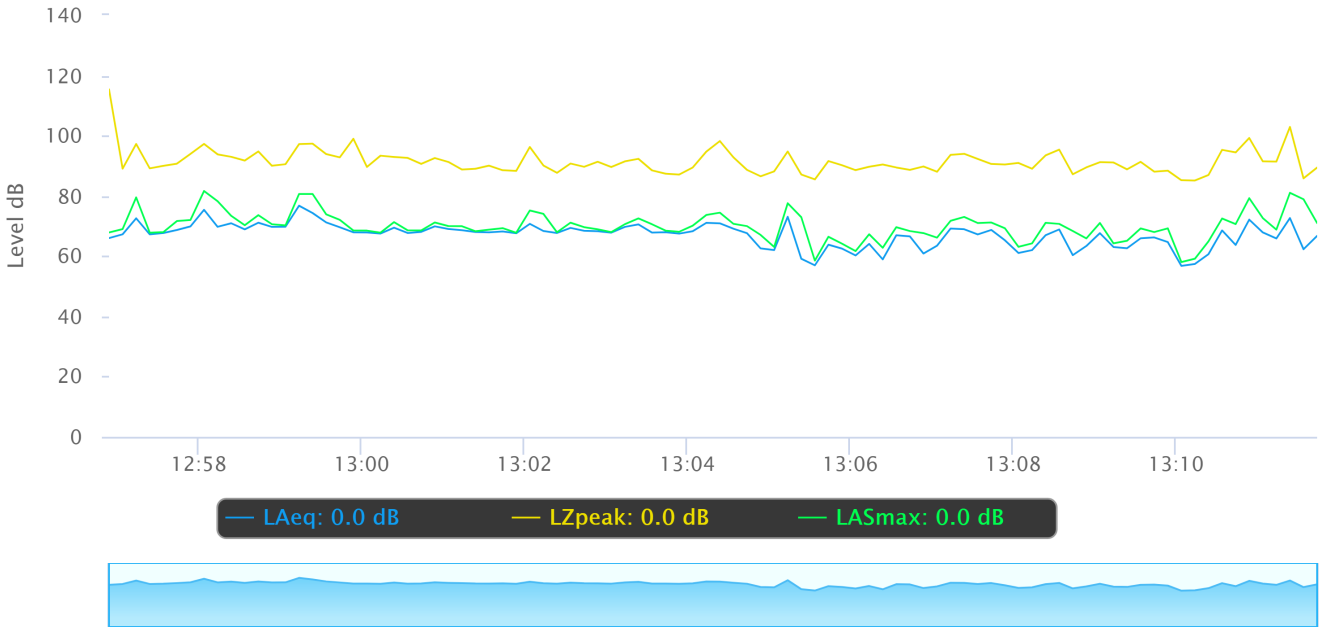
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	72.4 dB
LAS 10.0	70.7 dB
LAS 33.3	68.3 dB
LAS 50.0	67.6 dB
LAS 66.6	65.9 dB
LAS 90.0	60.3 dB

Time History



Measurement Report

Report Summary

Meter's File Name	LxT_Data.069.s	Computer's File Name	LxT_0005667-20210209 131942-LxT_Data.069.ldbin
Meter	LxT1 0005667		
Firmware	2.302		
User		Location	
Job Description			
Note			
Start Time	2021-02-09 13:19:42	Duration	0:15:00.0
End Time	2021-02-09 13:34:42	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	70.0 dB		
LAE	99.6 dB	SEA	--- dB
EA	1.0 mPa²h		
EA8	32.3 mPa²h		
EA40	161.4 mPa²h		
LZ_{peak}	106.7 dB	2021-02-09 13:28:21	
LAS_{max}	84.8 dB	2021-02-09 13:28:19	
LAS_{min}	54.8 dB	2021-02-09 13:30:10	
LA_{eq}	70.0 dB		
LC_{eq}	79.1 dB	LC_{eq} - LA_{eq}	9.1 dB
LAI_{eq}	72.1 dB	LAI_{eq} - LA_{eq}	2.1 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	70.0 dB		79.1 dB		--- dB	
$Ls_{(max)}$	84.8 dB	2021-02-09 13:28:19	--- dB		--- dB	
$LS_{(min)}$	54.8 dB	2021-02-09 13:30:10	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		106.7 dB	2021-02-09 13:28:21

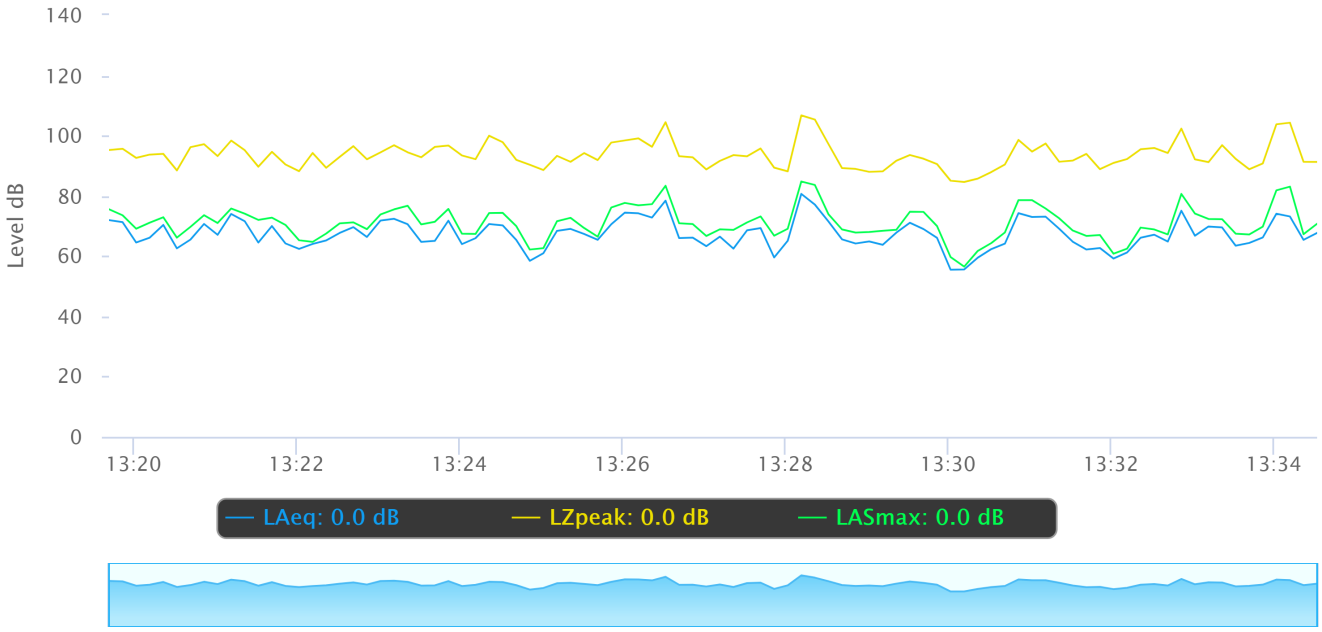
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	74.9 dB
LAS 10.0	73.2 dB
LAS 33.3	68.6 dB
LAS 50.0	66.3 dB
LAS 66.6	64.2 dB
LAS 90.0	59.6 dB

Time History



Selma Wilcox

Construction Noise - Unmitigated

Reference Noise Distance 50

Reference Noise Level 79

Sensitive Receptor	Distance (feet)	Attenuation Factors	Maximum Construction Noise Level (RCNM)	Existing Ambient (dBA, Leq)	New Ambient (dBA, Leq)	Increase
Location #1	150	0	69.5	75.8	76.7	0.9
Location #2	315	3	60.0	62.4	64.4	2.0
Location #3	40	5	74.0	68.6	75.1	6.5
Location #4	280	3	61.0	70	70.5	0.5

A 5 dBA attenuation was given for the concrete wall which seperates sensitive uses to the west of the site, and 3 dBA reduction was given for the first row of buildings intervening between the construction site and sensitive receptors (1.5 dBA for subsequent intervening structures), as recommended by the Caltrans Technical Noise Supplement.

Selma Wilcox Location 4

Ref= Reference vibration level (PPV)

RefD= Reference distance for Reference vibration level (Feet)

Vibration PPV		
Ref=	0.089	Based on type of equipment
RefD=	25	
D=	285	Distance from equipment to sensitive receptor
Equip=	0.002	
Annoyance VdB		
Ref=	87	Based on type of equipment
RefD=	25	
D=	285	Distance from equipment to sensitive receptor
Equip=	55	

Peak demolition vibration based on utilizing a large bulldozer.

Source: FTA Tranist Noise and Vibration Impact Assessment, 2006.